STRESS FOR SUPERINTENDENTS IN THE MIDWEST VIEWED THROUGH THE LENS OF PERSON-ENVIRONMENT FIT

by

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DEDICATION

For my family, because of your unending patience. That you never once questioned my decision to do this work is a true testament to the grace God has given each of you.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

Since its inception in 1837, the school superintendency has been the focus of significant attention from the educational research community. Superintendents face a wide spectrum of responsibilities that can challenge even the most prepared individuals. Fewer candidates are seeking the superintendency and the turnover rate for those already in the field is perceived by superintendents to be of concern. Stress associated with the superintendency has been shown to be a contributing factor to this turnover.

This study investigated the alignment between personal and environmental factors and stress management of superintendents. Understanding the relationship between personal and environmental factors and superintendent stress, specifically the ability to predict this stress by evaluating the personal and environmental factors, is a first step in decreasing stress and extending superintendent tenure. The framework of this study is based upon the concept of person-environment fit (P-E fit), which has been widely studied as a means for conceptualizing organizational behavior, organizational psychology, and human resource management. This study uses a quantitative approach and survey research methodology with a postpositivistic theoretical perspective. Participants in this research study were 992 practicing superintendents in the Midwest.

Five new superintendent stress constructs – board-relations stress, task-based stress, expectation-based stress, resource-management stress, and self-efficacy stress – were identified through a factor analysis. Hierarchical regression analysis results indicated that both personal and environmental factors predict frequency of superintendent stress. Implications for aspiring and practicing superintendents, superintendent preparatory programs, and superintendent support systems are discussed.

CHAPTER 1

INTRODUCTION

"Potentially, at least, the most important officer in the employ of the people of any municipality today is the person who directs the organization and administration of its school system, and who supervises the instruction given therein."

~ Ellwood P. Cubberley, in The Superintendent of Schools, 1915

Since its inception in 1837, the school superintendency has been the focus of significant attention from the educational research community. Now, more than ever, superintendents are facing a growing spectrum of responsibilities that can challenge even the most prepared individuals. These leaders are responsible for the academic well being of students from all across America, as well as the professional growth of a diverse pool of employees within their organizations. While continuously adapting their own work habits to the ever-changing 21st century demands, today's superintendents are also tasked with ensuring support in addressing those same 21st century demands for all those within the school environment. Technological innovations, curricular advancements, and a constantly diversifying population, not to mention the challenging fiscal responsibilities of a stagnant economy, surround the leaders of today's schools.

And while school superintendents are responsible for many, they are also accountable to many. Ever-expanding expectations come from stakeholders outside the school, including parents, employers, community members, board members, and other local, state, and federal leaders. The work is complex, the hours are long, and the stakes are high for their collective

future. Still, superintendents continue to report high levels of job satisfaction and the desire to do it all over again if given the chance (Kowalski, McCord, Petersen, Young, & Ellerson, 2011).

Statement of the Problem

Beginning with the first formal study by the National Education Association (NEA) in 1923, and continuing with surveys each decade for over 90 years by the American Association of School Administrators (AASA), the heightened responsibilities and complexities of the position have been well documented (e.g., Baker, 2010; Farkas, Johnson, Duffett, Foleno, & Foley, 2001; Glass & Franceschini, 2007; Kowalski et al., 2011). Researchers have collected a wide range of data related to the superintendency including demographic information, contract details, effectiveness, preparation programs, performance evaluations, job satisfaction, and on and on.

While practicing superintendents generally report an overall satisfaction with their chosen profession (Bjork, Keedy, & Gurley, 2003; Cooper, Fusarelli, & Carella, 2000; Glass & Franceschini, 2007; Kowalski et al., 2011), an abundance of empirical evidence indicates that the superintendency is a high stress job (Bailey, 1990; Blair, 2010; Brimm, 2001; Cooper et al., 2000; Eastman & Mirochnik, 1991; Farkas et al., 2001). Because of this, superintendents must identify sources of job related stress and create strategies for stress management (Eastman & Mirochnik, 1991). The list of factors attributed to superintendent job-related stress is lengthy and includes such things as inadequacy of funding, high expectations, public scrutiny, paperwork, politics, school board relations, abbreviated tenure, and the balance between work and personal life.

While balancing the professional rewards, personal satisfaction, and job-related stressors inherent to the position, research has shown that superintendents also have the potential to have a significant positive impact upon the school districts in which they work. Some empirical

evidence has indicated that superintendent tenure can contribute positively to student achievement, stability in the district, and continuity in vision (Alsbury, 2008; Waters & Marzano, 2006;). Other researchers have cited the importance of the link a superintendent creates between a school district and community (Carter & Cunningham, 1997; Glass & Franceschini, 2007). While the findings related to a positive impact on student achievement have been disputed by later studies (Berlau, 2011; Plotts, 2011), support still exists for the positive impact superintendents can have on a school district.

Despite the potential for positive impact, superintendent tenure has declined. In the 1950s, superintendent tenure averaged 13 to 14 years (Natkin, Cooper, Alborano, Padilla, & Ghosh, 2002). Since then, the average tenure has decreased, with AASA reporting the average at between five and six years (Glass, Bjork, & Brunner, 2000) and Natkin et al. (2002) reporting the average between six and seven years.

Through the myriad of stressors, potential rewards, and possible positive impacts, superintendents must consciously determine how they will navigate the position. In essence, they must carefully choose their individual leadership style. Each must choose their level of involvement in the day-to-day operations of schools, and whether they will be directive in their approach or operate from a more facilitative perspective. There are innumerable sources to turn to for guidance on leadership. Perhaps the most comprehensive of these comes from Bass' Handbook of Leadership (Bass & Bass, 2008). Leadership scholars have cited this landmark publication through four editions spanning nearly 40 years. In addressing styles of leadership, the authors outlined several frameworks from which to differentiate the actions of leaders, including autocratic versus democratic, directive versus participative, task versus relations, initiation versus consideration, and most recently, charismatic versus transformational leadership.

Also widely recognized as significant contributors to the leadership literature, Hersey and Blanchard (1969) developed a model for understanding leadership that is known as the Situational Leadership Model. Their model was built upon research that indicated leadership styles vary considerably from leader to leader and that leader behavior can range from task-based to relationship-based, with varying degrees in a spectrum between the two. Hersey and Blanchard concluded that the most effective leadership was that which most closely matched the behavior of leader to the needs of those under their direction. In 1976, Gates, Blanchard, and Hersey wrote, “there is no single all-purpose leadership style” and that “successful leaders are those who can adapt their behavior to meet the demands of their own unique environment” (p. 348).

When considering the work of Bass, Hersey and Blanchard, or the numerous other scholars who have studied and written about leadership, no shortage of research exists regarding how school superintendents might choose to lead. At issue for the present study is the application of this body of research to other aspects of the superintendency. Not only do practicing superintendents need to be cognizant of their personal leadership style, but they must also understand how this might work in tandem with other personal choices they make, such as the use of social supports to manage stress and the amount of time they spend on the job and away from the job. And finally, superintendents must understand how characteristics of their work environment, such as student enrollment, demographics, and even location – those things superintendents have little, if any, control over – contribute to the stresses inherent to the position of school superintendency.

In order to understand how these elements work together, some foundation for organizing the concept of stress must be present. It is one thing to outline the many sources of stress present

with the superintendency, but quite another to operationalize the many facets of job-related stress. Originating from a survey of over 1,150 Oregon school administrators (Gmelch & Swent, 1982), 35 isolated stressors have stood the test of time (Bailey, 1990; Blair, 2010; Botts, 1986; Creal, 1998; Gmelch & Gates, 1998; Richardson, 1998; Torelli & Gmelch, 1992). To organize these 35 items, known as the Administrative Stress Index (ASI), Koch, Gmelch, Tung, & Swent (1982) conducted a factor analysis, thus aggregating these items into four factors of perceived job-related stress for school administrators – role-based stress, task-based stress, boundary-spanning stress, and conflict-mediating stress (Koch, Gmelch, Tung, & Swent, 1982). In this framework, stressors that pertained to the administrator's own beliefs or attitude about their role in the organization were referred to as role-based stressors. Activities related to the coordination and communication of tasks as they related to the day-to-day operations of a school were referred to as task-based stressors. Those stressors that arose from the administrator's activities in relating the school to the external environment were called boundary-spanning stressors. And resolving conflicts that were indigenous to the school setting were referred to as conflict-mediating stressors. Whether or not these four categories, or factors, were still identifiable several decades after the initial analysis served as a foundational question to the present study.

It is, therefore, the convergence of these variables – job-related stress and personal and environmental characteristics – that frame the overall focus of this study. Research indicates job-related stress is inherent in the superintendency (e.g., Gmelch & Swent, 1982; Hawk, 2008; Hawk & Martin, 2011; Koch et al., 1982; Peterson, 2003; Yoder, 1994) and that it is a profession to which fewer candidates are aspiring (Cooper et al., 2000). In the most recent AASA survey of superintendents, and despite the general job satisfaction reported, only 51% of respondents said that they planned to still be a superintendent in 2015, indicating that a substantial turnover of

positions is looming (Kowalski et al., 2011). Increasing stressors associated with the position have been discussed as a link to the increasing turnover of superintendents (Hawk, 2008). Lashway (2002) reported that job-related stress for superintendents was associated with turnover and even prevented potential candidates from applying for positions.

With the prevalence of job-related stress well documented, stress management and superintendent well being have become a topic considered worthy of study (Gmelch & Chan, 1992; Gmelch & Gates, 1998; Hawk, 2008). What seems to be absent from the literature on superintendent stress and stress management is the potential connection between stress and the way a superintendent approaches the job. Little has been written to bridge the divide between a superintendent's personal choices in areas such as leadership style, use of social supports, and time management; environmental factors generally outside their control; and the predictability, and therefore ability to manage stress.

Given that superintendents have the ability to make choices such as the selection of their operational leadership style, the use of social supports, and how they structure their time, this study was designed to investigate the relationships among these variables, the environmental variables beyond their control, and their ability to effectively manage job-related stress in a manner that contributes positively to their longevity in a district.

Purpose of the Study

The purpose of this study was to identify relationships between personal and environmental variables and stress management of superintendents in twelve Midwest states using the theoretical framework of person-environment fit.

Research Questions

To address the global question of whether or not there is a relationship between personal and environmental variables and stress management, the following specific questions were addressed.

1. What are the background characteristics (Person) of Midwest superintendents?
2. What are the external variables (Environment) reported by Midwest superintendents?
3. Is there a statistically significant relationship between a superintendent's age, level of education, and longevity and stress factors associated with the superintendency?
4. Is there a statistically significant difference based upon gender and stress factors associated with the superintendency?
5. Is there a statistically significant difference associated with a superintendent's job assignment and stress factors associated with the superintendency?
6. To what extent do the person variables (leadership/management style, social support, time in non-job-related activities, time in work-related activities) and the environment variables (district size, SES, regional classification, impact of available funding) predict stress factors associated with the superintendency?

Significance of the Study

A study of the alignment between personal and environmental factors and stress management is important to the work of practicing and aspiring superintendents. Fewer candidates are seeking the superintendency (Cunningham & Burdick, 1999; Farkas et al., 2001; Lashway, 2002; Wolverton, 2004). Fusarelli, Cooper, and Carella (2003) found that a national sample of superintendents believed that fewer candidates were applying for positions and that there was reason to be concerned with the rate of turnover associated with the superintendency.

However, this supposed crisis in the superintendency is not without controversy (Cooper et al., 2000; Cunningham & Burdick, 1999; Glass & Bjork, 2003; Natkin et al., 2002). While Cooper et al. cited an aging profession ready to retire with more positions than applicants, Glass and Bjork indicated that the shortage was not a universal crisis. Despite the disparity on this topic, the turnover rate inherent with the position would indicate that practicing and aspiring superintendents would benefit from further research that might extend longevity. Understanding the relationship between personal and environmental factors and frequency of job related stress would contribute to the body of research by asking the question, to what extent can superintendents predict the levels of job-related stress they experience by understanding personal and environment factors present in their current role as a superintendent?

The findings of this study also impact those who provide support for practicing and aspiring superintendents. Preparatory programs for aspiring superintendents may find the results presented here helpful as addition to their curriculum. As superintendent candidates are being prepared to work in the field, they should be asked to consider the intentional personal choices they will eventually need to make. Understanding the potential impact of personal on-the-job decisions such as leadership/management style, use of social supports, and time management on the ability to manage job-related stress should be considered a significant preparatory activity.

Finally, “coping, understanding, and reducing superintendent stress should be a high priority for school boards and professional associations” (Glass & Franceschini, 2007, p. 47). Communities and school boards are urged to support superintendents in their challenging and complex jobs (Harris, Lowery, Hopson, & Marshall, 2004). By understanding the impact of personal decisions made by superintendents, school boards and professional associations can strengthen their partnership with the leaders of the educational community.

Conceptual Framework

The framework of this study was based upon the concept of person-environment fit (P-E fit). P-E fit has been widely studied as a means for conceptualizing organizational behavior, organizational psychology, and human resource management (Ahmad, 2010; Edwards, 1996; Edwards, Cable, Williamson, Lambert, & Shipp, 2006; Edwards & Cooper, 1990; Edwards & Van Harrison, 1993; Kristof-Brown, Zimmerman, & Johnson, 2005; Schneider, 2001; Wolverton, Gmelch, & Wolverton, 2000; Yang, Che, & Spector, 2008). P-E fit is broadly defined as the compatibility between an individual and work environment that occurs when their characteristics are well matched (Kristof-Brown et al., 2005). Fit has been, and can be, defined and measured in many ways. A major challenge of operating from a framework such as P-E fit is the proliferation of conceptualizations, measures, and analytic approaches that make fit an elusive construct (Judge & Ferris, 1992). A distinction must be made between before-employment fit, such as alignment of previous experiences to the position, and during-employment fit, including such elements as attitude, behavior, strain, performance, and tenure (Kristof-Brown et al., 2005). For the purpose of the present study, P-E fit is nested in the during-employment framework, considering the interaction of personal dispositions such as leadership/management style, use of social supports, and self-determined amounts of time spent at work versus time spent in non-work-related activities and environmental factors such as characteristics of one's school.

Foundational to this framework is psychologist Kurt Lewin's (2008) fundamental equation of human behavior:

$$B = F\,(P, E)$$

in which behavior (*B*) is a function (*F*) of the person (*P*) and of the environment (*E*). In this formula for behavior, the person and the environment are not independent of each other, but rather are mutually dependent upon each other. Lewin (2008) summarized the predictability factor of his equation by adding that overall behavior (*B*), or the "totality of these factors" (p. 338) resulted in the life space (*LSp*) of the individual:

$$B = F\,(P, E) = F\,(LSp)$$

For the present study, stress management (*SM*) is viewed as a function of superintendent behavior. In this case, the equation becomes:

$$B = F\,(P, E) = F\,(SM)$$

where stress management (*SM*) allows for the possibility that as individuals adapt certain personal factors (*P*) in relationship with certain environmental factors (*E*), they can predict stress reactions and gain control over their ability to effectively manage their job-related stress [$B = F\,(SM)$].

Placed in context with the specific P-E variables of the present study, the following equation results:

$$B = F\,(P\,[Personal\ Variables], E\,[Environment\ Variables]) = F\,(SM)$$

where the personal variables are 1) leadership/management style, 2) social supports, 3) time in non-job-related activities, and 4) time in job-related activities beyond a traditional 40 hour work week; and the environment variables are 1) district size by enrollment, 2) percentage of population with low SES, 3) regional classification, and 4) impact of available funding. Figure 1.1 visually depicts these variables as elements of the equation.

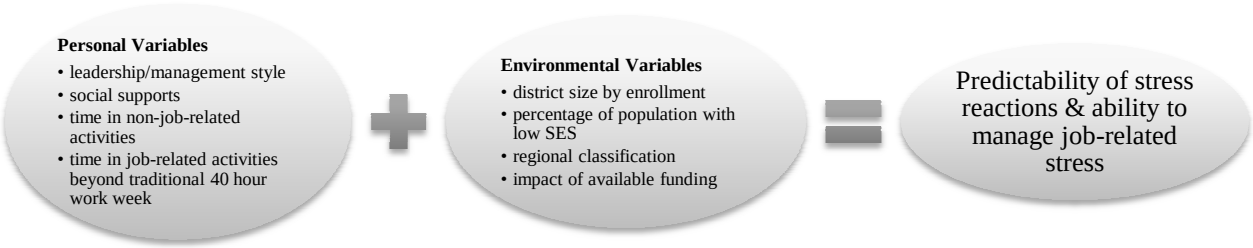

Figure 1.1 Visual Representation of Human Behavior Equation

Definitions of Key Terms and Acronyms

This section provides definitions of key terms and acronyms used in this paper.

AASA—American Association of School Administrators

Actual enrollment—the number of students being educated

ASI—Administrative Stress Index

Certified enrollment—the number of students residing within a school district, regardless of where they are educated

Midwest—Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, Ohio, North Dakota, South Dakota, Nebraska, and Kansas (United States Census Bureau, n.d.)

NEA—National Education Association

Social Supports—Interpersonal concern available from another source preceding, during, or after a stressful experience

Socioeconomic status—A measure of family income based upon eligibility for free or reduced price lunch under the National School Lunch Act, which provides cash subsidies for free and reduced price lunches to students based on income and family size

Stress – "The nonspecific response of the body to any demand" (Selye, 1978, p. 1)

Superintendent – The chief executive officer of a local school district

Summary

This study sought to inform practicing and aspiring superintendents, preparatory programs for aspiring superintendents, school boards, and state and national professional organizations that represent boards and superintendents by identifying the relationship between personal and environmental factors and stress of superintendents.

Chapter 2 provides a summary of the related research and literature that provides the background and foundation for this study.

Chapter 3 describes the quantitative methodology used in the study, participant demographics, variables and instrumentation, data analyses, delimitations, and limitations.

Chapter 4 provides the results of the analyses used to inform this study, including discussion of the methods used to screen the data and establish assumptions of normality. The chapter reviews the results of frequencies and descriptive statistics, correlations for each of the independent and dependent variables, and the results of the regression analyses. The chapter concludes with the answers to the six research questions examined in this study.

Chapter 5 reviews the research and includes a discussion and conclusions informed by the results from chapter 4. Discussion is provided on implicates for the field, and the chapter closes with final thoughts.

CHAPTER 2

LITERATURE REVIEW

Superintendents are facing a growing spectrum of responsibilities that directly affect the academic well-being of students, the professional growth of employees within their schools, and the future of the national workforce. And while the responsibilities of the current position extend far beyond those responsibilities originally assigned to the nation's first superintendents, the potential outcomes expected of those holding the position have changed very little from when Ellwood Cubberley (1915) wrote that the "profession…will play a very important part in the development of American life" (p. 147). The reality is that it is a high stakes position performed under a great deal of stress. Superintendents are responsible for many, and they are accountable to many, including parents, employers, community members, board members, and other local, state, and federal leaders. The work is complex, the hours are long, and the stakes are high for the collective future. Still, superintendents continue to report high levels of job satisfaction and the desire to do it all over again if given the chance (Kowalski et al., 2011).

The purpose of this study was to identify relationships between personal and environmental variables and stress management of superintendents in the Midwest using the theoretical framework of person-environment fit. The reason for exploring this relationship between personal and environment variables was to better understand the alignment between the two as it relates to practicing and aspiring superintendents, and to provide recommendations that inform practicing and aspiring superintendents, preparatory programs for aspiring superintendents, school boards, and state and national professional organizations that represent boards and superintendents.

In order to consider both theory and research related to stress and the superintendency, three strands of literature were reviewed. First, the position of school superintendent, including the historical evolution of the position and a description of the current state of the school superintendency were considered. Second, this review moved to the literature on stress in general, job-related stress, and then, specifically, stress as it is related to the superintendency. The third and final section was a review of person-environment (P-E) fit, which served as the framework for this study. In addition, other variables representative of superintendent demographics were examined.

Superintendency

Early History of the Superintendency

The position of school superintendent originated in 1837 as a bi-product of an era recognized as the common school movement. From 1830 to 1850, in an effort to provide education to all children in America, a national movement emerged that created state systems of public elementary and secondary education. Prior to this movement, universal access with a systematic approach to education did not exist for all students. For most, the opportunity to be educated was based upon factors such as gender, affluence, or location. Essentially, some were educated and some were not, and those who were educated had no guarantee of a standardized curriculum. In addition, across the nation, no uniform standard of instruction existed. The common school movement was a direct reaction to these conditions. As Robert Dale Owen, early leader of the New York workingmen's movement wrote in 1830, a system of republican education would not only be open to all, but equal for all (Butts & Cremin, 1953). The push to offer a standardized education also emerged from a renewed focus on nationalism. The importance of literacy and a universal understanding of the republican society upon which the

nation was built served as catalysts for the organization of a common school structure. Those active in the movement sought a structure that might bolster the nation's political, social, and military aspirations.

As the idea for common schools emerged, the concept was sold to the American public on the foundation of a high quality, free education for all, with no one excluded based upon inability to pay tuition. While the design of public schools during this movement aligned with the American beliefs of liberty and equity, government officials also sought to establish a system that offered local control, but with a degree of state level legal oversight. Recognizing the potential for inadequacies and inequality if left entirely in the hands of local communities, leaders of the era granted authority over public education to state government. Then, within this framework of state authority, local school boards were charged with the legal authority for operating public schools in their communities.

Evolution of the Superintendency

Employing a superintendent, establishing policies and rules of governance, and raising and expending public funds were among the duties delegated to the local school boards. Beginning with the first superintendency in Buffalo, New York in 1837, 13 urban school districts established the position of superintendent between then and 1850. By 1890, school superintendents had been appointed in most cities (Kowalski, 1999). As the transition continued throughout the nation from one-room schoolhouses to more populated schools that were organized by grades, more and more superintendents were appointed and charged with the task of standardizing curriculum and supervising instruction.

While the initial charge given to superintendents was to standardize curriculum and instruction in schools as the common school movement began, managerial tasks soon absorbed

much time and energy as a response to a growing emphasis on scientific management, the increasing size of school districts, the desire to separate teaching from administration, and the establishment of bureaucratic like structures (Kowalski, 1999). Several named eras swept through the public education arena after the common school movement, each reflecting evolving needs, values, and political conditions of the nation (Kowalski et al., 2011). Representing the public priorities of the day, these eras included the Era of Scientific Management, the Human Relations Movement, the Civil Rights Movement, and the School Reform Movement. And as each era permeated the educational system, the superintendency evolved a bit more.

Kowalski (2005) reviewed five stages of this evolution of the superintendency. The first four stages – teacher-scholar, manager, democratic leader, and applied social scientist – originated from Callahan (1966), and the fifth, communicator, originated from Kowalski (2001, 2005). Superintendents were first teacher-scholars. Beginning after the Civil War and continuing until about 1910, these male leaders were considered teachers of teachers, sharing their knowledge of educational needs, problems, and innovations through scholarly writing and speaking opportunities (Kowalski, 2005; Kowalski et al., 2011). They served as "moral role models, disseminators of the democratic ethic, and, most importantly, builders of the American dream" (Glass et al., 2000, p. 2). Yet, these early superintendents struggled to be seen as professionals and wrestled with the politicized schools boards of the day (Glass, 1992; Glass et al., 2000).

Transitioning next to the role of manager, superintendents soon became the focus of criticism related to their ability to manage large city districts. Management, including budgeting, standardizing operations, personnel management, and facility management, became the clearly dominant role of the superintendent in the early 1900s (Kowalski, 2005). Viewed as the district's

business manager, more emphasis was placed on a superintendent's managerial skills than on teaching skills (Kowalski et al., 2011). During this time, much of the control over school operations shifted from the board of education to the acting superintendent (Glass, 1992; Glass et al., 2000).

Emerging next as a democratic leader, superintendents serving between 1930 to the mid 1950s were tasked with navigating the political arena of securing scarce fiscal resources and engaging in other political advocacy activities (Kowalski, 2005; Kowalski et al., 2011). Viewed as experts with extensive knowledge in their field (Glass et al., 2000), superintendents were looked to for providing leadership to maintain peace and harmony in the district (Glass, 1992).

As applied social scientists, superintendents of the next few decades were expected to apply scientific inquiry to the problems and decisions within the scope of their practice (Kowalski et al., 2011). It was thought that superintendents should be expected to have expertise in dealing with social and institutional ills such a poverty, racism, discrimination, crime, and violence (Kowalski, 2005). During times of immense social tension throughout the 1960s and 1970s, the tumultuous atmosphere spilled over into schools and expectations for superintendents to lead school boards in policy development emerged (Glass, 1992; Glass et al., 2000).

The most recent era, the Information Age, again forced a shift in the role of the superintendency. In addition to a myriad of other expectations, superintendents were expected to expand their role as communicators, while honing their ability to access and process enormous amounts of information in various forms and through many communication outlets (Kowalski, 2005). Superintendents of the Information Age were judged on the basis of their communicative behavior (Kowalski et al., 2011). In an educational system that had been built upon the concept

of working in isolation, in the absence of like-role teams, superintendents were now tasked with creating an environment of collaboration between stakeholder groups.

While the superintendency can be tracked through this evolution of roles and job expectations, the position is relatively unknown and often misunderstood to anyone who has not filled the role. As stated by Lashway (2002), "To outsiders, the role of the school superintendent has always been a little mystifying. Most people can explain that the superintendent is the ultimate 'person in charge,' but what superintendents do remains vague" (p. 2). The position is unique and shares very few characteristics with other positions within a school.

The superintendent is typically the only employee who reports directly to the board of education, and the authority given to the superintendent is a direct delegation from the board. In general, the job expectation for superintendents is to implement board policy and operate the school system in an efficient and effective manner (Knezevich, 1984). But to be more specific, and depending on the needs of the district, superintendents are expected to be visionary leaders who recognize the differences between schooling today and schooling yesterday; financial planners who understand the impact of the recent downturn to the American economy; human resource managers who can insist upon equity for students, employees, and stakeholders; and instructional experts able to navigate the emphasis on high stakes testing (Kowalski et al., 2011).

Current and Future Status of the Superintendency

Since its inception, the job description of the superintendency has seen a gradual evolution from educational leader to manager to communicator. It is a position that has been described as one of the most multifaceted and complex roles in modern society (Baker, 2010; Farkas et al., 2001; Glass, 1992; Glass & Franceschini, 2007; Kowalski et al., 2011). The skill set necessary to be a school superintendent has changed as the position has evolved. Rueter

(2009) cited skill sets identified by superintendents that included personal communication and team-building skills, advanced formal training in education, and the ability to deal with the issues of professional mobility. Participants in Rueter's study cited expanded communication outlets that have created an audience that extends beyond only school board members and the local community. Participants also recognized a need for advanced degrees and the ability to stay mobile in light of shortening tenure.

Despite the complexity, practicing superintendents generally report an overall satisfaction with their chosen profession (Bjork et al., 2003; Cooper et al., 2000; Glass & Franceschini, 2007; Kowalski et al., 2011). Research has shown that superintendents have the potential to have a significant positive impact upon the school district in which they work. Some empirical evidence has indicated that superintendent tenure can contribute positively to student achievement, stability in the district, and continuity in vision (Alsbury, 2008; Waters & Marzano, 2006). Other researchers have cited the importance of the link a superintendent creates between a school district and community (Carter & Cunningham, 1997; Glass & Franceschini, 2007). While the findings related to a positive impact on student achievement have been questioned by later studies (Berlau, 2011; Plotts, 2011), support still exists for the positive impact superintendents can have on a school district.

So who are the superintendents that lead the nation's schools and what is known about them in terms of demographics, preparation, and job placement? Beginning with the first formal study by the National Education Association (NEA) in 1923, and continuing with surveys each decade for over 90 years by the American Association of School Administrators (AASA), a great deal of information has been collected that provides a picture of these school leaders.

Age. The AASA studies conducted between 1950 and 1991 indicated the median age of superintendents to be 48 to 50 (Kowalski et al., 2011). In 1992, the median age increased to 52.5 (Glass et al., 2000). In the most recent AASA study, conducted in 2010, results indicated that the average age range has since broadened. Responses indicated that 14.6% of superintendents were less than 46 years old, a 50% increase from the 9.8% reported in the 2000 study (Kowalski et al., 2011). And in addition, in 2000, only 8% were over the age of 60, while in 2010 this percentage increased to 18.1%.

Gender. Males have historically been the majority in the superintendency. The lowest percentage of female representation reported through the AASA studies was 1.2% reported in 1982 (Glass, 1992). Since that time, the percentages reported in the AASA studies present a gradual and steady increase with 6.6% in 1992 (Glass, 1992), 13.2% in 2000 (Glass et al., 2000), 22% in 2006 (Glass & Franceschini, 2007), and 24.1% in 2010 (Kowalski et al., 2011). Despite this increase, men still outnumber women by a ratio of four to one. According to Bjork and Keedy (2001), men are 20 times more likely to move from teaching into the superintendency than women.

In her research of the social construction of gender in the superintendency, Skrla (2000) characterized gender imbalance in this nation's public schools to be based upon a general understanding that it is "a man's role, and women who inhabit this role will necessarily have difficulties caused by their femaleness" (p. 293). Skrla, Reyes, and Scheurich (2000) further described these difficulties of femaleness as sexism in the form of questioned competence, sex-role stereotypes, and intimidation, and reported a general silence by women in the position.

Respondents in a survey by Keedy, Bjork, Winter, Rinehart, and Ricciardi (2007) echoed the presence of barriers that limit access to the superintendency for women. When disaggregated

by gender among the participants, 60% of female respondents indicated that boards did not actively recruit women and 64% also indicated that women were not viewed as strong managers by boards. Survey responses from males on the same two barriers were 8% and 10% respectively, indicating a difference of perspective between men and women.

Upon completion of a national survey of practicing superintendents, Cooper et al. (2000) referenced both their own 12.2% female respondents and the percentages reported in the AASA survey result, calling for a concerted effort to increase opportunities for women. While Glass (1992) reported that only 13.7% of AASA survey respondents believed gender discrimination was a serious problem in superintendency hiring, and that about half thought gender discrimination in general posed little or no problem, Skrla (2000) pointed out that 93% of respondents in the AASA survey were male. Debate of such perspectives related to differences aside, comprehensive survey data indicate that school superintendency positions remain largely occupied by men.

Education. Most superintendent preparation programs offer similar courses in school administration, including finance, personnel administration, organizational theory, school law, and school-community relations (Glass et al., 2000). There is no national curriculum for the preparation and licensure of school superintendents. While some states allow the acquisition of a superintendent's license without having completed a specific preparation program, Kowalski et al. (2011) found 84.9% of survey respondents had completed a specified superintendency licensure program.

In some cases, superintendents complete a doctorate program, including both Ph.D. and Ed.D. degrees. No state requires a doctorate for superintendency licensure, yet the percentage of superintendents holding these degrees increased gradually from the 1971 AASA survey – 29.2%

in 1971, 39.5% in 1982, 36% in 1992, and 45.3% in 2000 (Glass et al., 2000) – and has held steady from the 2000 survey – 51% in 2006 (Glass & Franceschini, 2007) and 45.3% in 2010 (Kowalski et al., 2011).

Experience. At the time of the 2010 AASA survey, 6% of respondents were in their first year as a superintendent. Slightly more than half, 54.3%, had between two and eight years of experience in the position, and nearly one-fourth, 24.8%, had 13 or more years of experience in the position (Kowalski et al., 2011). Looking back a decade, superintendents in the 2000 AASA survey had been in the role of superintendent, regardless of the number of districts served, for an average of 8.75 years (Glass et al., 2000), and Glass and Franceschini (2007) estimated the percentage of first time superintendents to be slightly higher in 2006, at 15%, from the 6% later reported in 2010.

Longevity. The school superintendency has been considered a short-term position with a traditional average tenure, or time in one school district, considered to be at about six years (Glass & Franceschini, 2007). While Glass et al. (2000) referred to the superintendency as having rapid turnover and mobility, others have taken the topic of tenure to more extremes. Citing 88% agreement among responding superintendents that there was a shortage of applicants for the superintendency, Cooper et al. (2000) referred to the situation as an actual crisis. The researchers also reported a 92% affirmation that there was concern over a high turnover rate in the superintendency.

Others have provided empirical data to support turnover and/or perceived turnover in the superintendency. Most respondents in a national survey of superintendents conducted by Fusarelli et al. (2003) reported agreeing that the nation was facing a shortage of applicants for the superintendency, that it was experiencing a crisis in school leadership, and that the quality of

candidates to the position was declining. And when asked about the factors that inhibited superintendents from staying in the superintendency, Harris et al. (2004) reported that superintendents cited paperwork/bureaucracy, community politics, and working with the school board as the top three factors. In a survey specific to the superintendents in the nation's largest urban districts, Fuller, Campbell, Celio, Harvey, Immerwahr, and Winger (2003) concluded that many of the conditions of the superintendency actually set superintendents up for failure. Among the inhibiting conditions, respondents cited a position that virtually precluded superintendents from doing what they were hired to do, local school dynamics that competed for power, and endless pending crises.

In the AASA survey of superintendents, Kowalski et al. (2011) found that one in three respondents reported leaving their current position to assume a new challenge. The next most frequent response was conflict with the school board. Factors identified by Natkin et al. (2002) as significantly related to shorter tenure were high poverty of students in the district, minimal support for construction of new facilities, and micromanagement by the school board. Byrd, Drews, and Johnson (2006), in a study of superintendents in Texas, found that the average tenure among participants decreased as the level of difficulty in working with the board president or board members increased.

In the 1950s, superintendent tenure averaged 13 to 14 years (Natkin et al., 2002). Since then, the average tenure has decreased, with AASA reporting the average at between five and six years (Glass et al., 2000) and Natkin et al. (2002) reporting the average between six and seven years. Tracked from a more historic view through the AASA surveys, the average length of tenure for superintendents in the 1992 survey was 6.47 years (Glass, 1992), an estimated 5 years in 2000 (Glass et al., 2000), and 5.5 years in 2006 (Glass & Franceschini, 2007). According to

Glass and Franceschini (2007), the typical superintendent serves three school districts with an overall career length in the position of about 17 or 18 years.

In general, there are repercussions for employee turnover. In a review of literature on turnover, Shields (2002) referenced a loss of productivity, disruption of business, and unexpected expenses as significant consequences of employee turnover, which are magnified when top management is the position vacated. Research has indicated that the length of time a superintendent remains in a district has an impact. Waters and Marzano (2006) found that superintendent tenure could contribute positively to student achievement, stability in the district, and continuity in vision. Other researchers have cited the importance of the link a superintendent creates between a school district and community (Carter & Cunningham, 1997; Glass & Franceschini, 2007). While the findings related to longevity's impact on student achievement have been questioned by later studies (Berlau, 2011; Plotts, 2011), support still exists for the positive impact superintendents can have on a school district.

Job structure. Some superintendents are just that – superintendent only. In other instances, other titles and responsibilities are added to the job. While the complexity of the position has been reviewed, job structure as a variable in the present study is specific to combinations of jobs that in other districts would be assigned to two or more other individuals. Specifically, this includes a shared superintendency in which the individual serves as the sole superintendent in two independent school districts, superintendent and elementary principal in the same district, or superintendent and secondary principal in the same district. For example, in a survey of stress factors among South Dakota superintendents, 52% of respondents indicated that a least a portion of their contract was dedicated to another position in the district in addition to the superintendency (Creal, 1998).

Stress

Before one can consider the relationship between stress and other factors such as the superintendency as described above, an exploration of the concept of stress and its history is in order. More specifically, this includes how stress came to be a field of research and how the impact of stress on individuals has already been studied. With this foundation in place, the review will advance to a consideration of job-related stress, and then job-related stress specific to the school superintendency.

General Stress

The topic of stress is so widespread it has been researched and written about in thousands of books, articles, and journals (Torelli & Gmelch, 1992). To illustrate, a Google search of *stress* conducted in January 2013 generated 448 million results. While a fair assumption can be made that stress has existed since the beginning of time, it was not until the twentieth century that a generally accepted definition of stress emerged. Through laboratory experiments, Hans Selye, who has been widely recognized as the "father of stress" (Botts, 1986), sought to use scientific methodology to defined stress. To describe the physical and psychological phenomenon of stress, he offered the definition "nonspecific reaction of the body to any demand" (Selye, 1978, p. 55).

Selye's work in studying stress, beginning in the 1920s, is considered foundational to much of current research. At the time of Selye's identification of this nonspecific reaction of the body, the term *stress*, in terms of a physical reaction, did not even exist. Prior to his studies, stress was considered to be exclusively a psychological reaction. According to Selye, "in everyday English [stress] generally implied nervous strain" (1978, p. 36). Described first by Selye as a *syndrome*, he conducted laboratory experiments on rats, measuring the physical effects of various toxic substances. In his efforts to separate specific and identifiable physical

reactions from nonspecific physical reactions, Selye adopted the label, “damage syndrome” (p. 30). His use of the term *stress* to describe the nonspecific reactions, in addition to the psychological reactions, was not without controversy. Trying other terms in his writing and lecturing, including *alarm reaction*, *stage of resistance*, and *adaptation syndrome*, Selye eventually resolved to adopt the term *stress*, citing that, as an abstract concept, stress was no less appropriate to accept as a concept than the abstract concept of *life*.

With the abstract nature of the term *stress* comes the multiple uses of, references to, and definitions of the phenomenon, making the exact meaning of stress rather ambiguous. In the decades since Selye’s research and writing, many have adopted a definition similar to his, and often involving language referencing the ambiguity of the concept (e.g., Gmelch, 1977; Hawk & Martin, 2011; Ivancevich, Matteson, & Preston, 1982). Instead of making distinctions within this definition, many, including Selye, chose instead to delve deeper into the specificity of the term *stress* to developed delineations of the concept. For example, according to Selye, stress can take two forms, one negative, *distress*, and the other not negative, *eustress*, with the difference between the two being that eustress causes much less damage, or negative consequences, than distress. Since making this distinction, others have adopted similar positive or negative perspectives when considering stress (Gmelch, 1977; Hawk & Martin, 2011; Tanner, Schnittjer, & Atkins, 1991, Wolverton et al., 2000).

Another multi-dimensional way to view stress is through the lens of a multi-stage process involving stimulus and response (Ivancevich et al., 1982). A stimulus and response cycle requires some type of interaction. Conceptualized as a four stage cycle of interaction between the person and the environment, McGrath (1976) delineated the following four stages: 1) perception of stressors by the individual, 2) choice of how to view the stressor, 3) perception of possible

consequences and selection of appropriate responses to deal with the stressor, and 4) resulting behavior. Most other models or frameworks used to represent the concept of *stress* are elaborations of or extensions built from the foundation provided by McGrath (Gmelch & Chan, 1992). For example, building on McGrath's four stage process, Gmelch (1988) identified a cycle that included an initial stage in which a set of demands is placed upon a person, a second stage in which the person perceives or interprets the stressors, a third stage in which the person makes choices in response to the stressors, and finally, a fourth stage in which the person experiences consequences. Gmelch also specified that between the four stages are filters that influence and affect the interaction of the stages, each influenced by the person's disposition and personal background characteristics.

With all this considered, for the purpose of the present study, Selye's definition, "a nonspecific reaction of the body to any demand" (1978, p. 55), was used. Nonspecific being just that – the inclusion of any response, whether physical or psychological. The bottom line with stress is that it is ever-present, sometimes positive, sometimes neutral, and other times negative. With such a broad base from which to work, a review of related literature now narrows to stress within specific domains – first job-related stress in general, then to stress of the superintendency.

Job-Related Stress

According to the American Psychological Association (APA) (2009), 69% of employees reported that work was a significant source of stress in their lives. Additionally, 41% said they typically felt tense or stressed during the workday. If stress in general is an ambiguous concept, so too is job-related stress. The endless list of occupations and potential positions within each occupation does little to narrow the focus of the definition of stress as it pertains to the work environment. A clear definition of job-related stress, as well as a review of sources and the

potential impact of such stress, can provide a means of organizing and understanding stress inherent to the workplace.

Job-related stress defined. Margolis and Kroes (1972) defined job-related stress as a condition in which some factor, or combination of factors, at work interacts with the worker to disrupt them physically or psychologically. Defined in this manner, the interaction of the worker and the work are key elements. Not every person reacts to a similar situation in the same way. Researchers have considered the myriad of differences in job-related stress from multiple perspectives with the most prevalent approach appearing to be person-environment fit (Edwards & Van Harrison, 1993; French, 1972; Judge & Ferris, 1992; Wolverton et al., 2000).

Sources of job-related stress. Person-environment (P-E) fit was developed by French, Caplan, and Van Harrison (1982) as a theory that would define the fit between personal motivation, goals, and values and the resources provided in the work environment. P-E fit also provided a theoretical framework for an explanation of the fit between personal attributes, such as skills and abilities, and job requirements. Put simply, P-E fit is the compatibility between an individual and a work environment in consideration of whether or not they are well matched (Kristof-Brown et al., 2005).

So prevalent is the scholarly writing on P-E fit, that Schneider (2001) was prompted to write, “of all of the issues in psychology that have fascinated scholars and practitioners alike none has been more pervasive than the one concerning the fit of person and environment” (p. 141). Further documenting the prevalence of research in this area, in a meta-analysis investigation of the multiple applications of P-E fit applied to the work environment, Kristof-Brown et al. (2005) identified four delineations of P-E fit to help bring organization to the large

literature base: person-job (P-J) fit, person-organization (P-O) fit, person-group (P-G) fit, and person-supervisor (P-S) fit.

Since the early development of the framework, many researchers have used P-E fit to seek understanding of job-related stress. One does not need look very long to find numerous examples of the P-E fit framework applied to research involving job-related stress. For example, in a study of academic deanship, Wolverton et al. (2000) identified specific personal and institutional factors that either exacerbated or diminished stress for deans. Yang et al. (2008) conducted survey research involving six companies in China to investigate the impact of job-related stress on personal well-being, finding that the quality of relationships at work predicted job satisfaction, mental and physical well-being, and turnover intentions. And Ahmad and Veerapandian (2012) investigated the relationship between culture within an organization and job satisfaction, finding that P-E fit was a significant mediator between the two. Finding consensus on the most utilitarian application of P-E fit within the body of research is far more difficult than merely locating related literature. The conceptualization of P-E fit takes many forms (e.g., Edwards, 1996; Kristof-Brown et al., 2005; Schneider, 2001). A more detailed review of literature related to the multiple facets of P-E fit follows.

Impact of job-related stress. With the presence of job-related stress documented, and personal and environmental factors considered as sources, the remaining consideration for job-related stress is impact. Fifty-one percent of employees reported less productivity at work as a result of stress (APA, 2009). And in a report published by Rosch in 2001, job stress was estimated to cost U.S. industry more than $300 billion a year in absenteeism, turnover, diminished productivity and medical, legal, and insurance costs (APA, 2010). Burnout, a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment, is

considered a long-term effect of unresolved occupational stress (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Demerouti et al. found that the symptoms of burnout were determined by specific working conditions. Their findings specifically indicated that high job demands predicted exhaustion and low availability of resources predicted disengagement.

When it comes to impact of job-related stress, sheer numbers apply. While unemployment rates tend to fluctuate in relationship to the economy, the vast majority of Americans are employed. The January 2013 Bureau of Labor Statistics News Release indicated that the unemployment rate was holding steady at 7.8% (U.S. Department of Labor, 2013). Considering then the statistics from the American Psychological Association indicating that 69% percent of employees reported that work was a significant source of stress (APA, 2009), there are millions of employees across the nation that are experiencing some type of job-related stress. Narrowing the focus of the concept of *stress* one more time, the present review of literature now funnels to job-related stress specific to school superintendents.

Superintendent Stress

In essence, like many top executive positions, stress goes with the territory for a school superintendent. “Intellectually understanding that stress is a normal condition of the position is just as important as finding personal coping mechanisms to reduce its negative effects” (Glass & Franceschini, 2007, p. 47). Put more succinctly, “conflict is the DNA of the superintendency” (Cuban, 1998, p. 56). Gmelch (1996), widely known for his extensive writing on stress and school administration, indicated that stress both intrigues and plagues superintendents and scholars.

The 2006 survey of superintendents is the most recent AASA survey to ask about job-related stress. Of the 1,338 participants responding, nearly 60% indicated that they felt

considerable or *very great* stress with their position. This was an increase from 51.5% in 2000, 50.3% in 1992, and 43.6% in 1980 (Glass & Franceschini, 2007). Even higher than this, in a national study of new superintendents, Welch (2004) reported that 80.5% responded with the perception that the superintendency was *considerably* or *greatly* stressful. Higher still, Farkas, Johnson, Duffett, Syat, and Vine reported "an astonishing 98%" of the 1,006 superintendents surveyed reported that "being a superintendent is a high-stress, high-visibility job" (2003, p. 15). And Lashway (2002) reported that stress associated with the superintendency not only forced many qualified leaders to step down, but it also deterred many qualified candidates from applying for open superintendent positions. Study after study has revealed that superintendents self-report high levels of stress.

As the focus of literature on stress narrows to a specific occupation, the ability to identify specific job-related stressors becomes more finite. Particular elements of each profession can be identified by those considered to be "in the trenches." Since the study of superintendent stress emerged as an area of interest to the research community, the quest to identify the particular and most prevalent stressors of the school superintendency has saturated the literature. In the 2000 AASA survey, superintendents described efforts at obtaining sufficient fiscal resources as a never-ending struggle, and cited the large number of insignificant demands from stakeholders and the increasing state-mandated reforms as key factors in hampered superintendent effectiveness (Glass et al., 2000). Byrd et al. (2006) found that working with the board president, not being able to get decisions made at the board level, and superintendent to board relations were all statistically significant factors in determining the length of tenure for superintendents in Texas. The highest average rating reported of all stressors in a survey of Maine superintendents was leading the school board through a controversial issue (Eastman & Mirochnik, 1991).

The list goes on. Yvarra and Gomez (1995) found the highest reported stressor for superintendents in Wisconsin was related to the high demand of time and energy required of those in the position. Welch (2004) cited sources of superintendent stress that included working with a school board, lack of funding and budgeting, personnel issues, union negotiations, and a poor work ethic from others. Organizing stressors around the categories of organizational challenges, economic challenges, personnel-related challenges, and student-related challenges, Trevino, Braley, Brown, and Slate (2008) identified obtaining highly qualified teachers as the biggest challenge for superintendents in South Texas. The large amount of paperwork and bureaucracy rose to the top of the list for Texas superintendents in a study by Harris et al. (2004). And Blair (2010) found that the highest levels of stress for superintendents in Virginia were related to preparing and allocating budget resources, followed next by the increasing accountability and the expenses associated with federal mandates.

While the methodologies researchers have used to gather data on superintendent stress have varied in the approximate 60 years of study, one organizational tool – the Administrative Stress Index – has emerged as a dominant tool. As research around the stressors inherent to the role of school administrators became more prevalent in the 1970s and 1980s, commonly accepted lists of stressors began to emerge. In an exploratory study of Oregon school administers, Gmelch and Swent (1982) expanded on a 15-item inventory of Job-Related Strain (Indik, Seashore, & Slesinger, 1964) by including items from literature of the time and from recommendations of practicing school administrators. The resulting assessment was a more comprehensive, 35-item assessment known as the Administrative Stress Index (ASI). Since its creation, the ASI has been used extensively to gather information about the stressors most

frequently identified by superintendents throughout the nation (e.g., Bailey, 1990; Blair, 2010; Botts, 1986; Brimm, 2001; Creal, 1998; Richardson, 1998; Torelli & Gmelch, 1992).

The stressors contained within the 35 items of the ASI were originally categorized into five factors: a) administrative constraints, b) administrative responsibilities, c) interpersonal relations, d) intrapersonal conflict, and e) role expectations (Gmelch & Swent, 1982). In this first use of the ASI, the category of administrative constraints received the highest mean score, indicating that responding administrators considered items in this category to be most stressful. Of the top ten stressors reported, five came from this category, including a) complying with state, federal, and organizational rules and policies; b) trying to complete reports and other paperwork on time; c) feeling that meetings took up too much time; d) feeling that the work load was too heavy and could not possibly be finished during the normal day; and e) being interrupted frequently by telephone calls. The stressor rated most high across administrative roles in this study from 1982 was “complying with rules and policies.” While significant differences were found between the responses of the various administrative positions included in the survey, superintendents concurred with the overall high rating of the item related to compliance with rules and policies.

By way of a factor analysis, Koch et al. (1982) extracted four factors from the construct of administrative stress. Seen as a multifaceted and multidimensional construct, this analysis clustered 25 of the 35 ASI items into role-based stress, task-based stress, boundary-spanning stress, and conflict-mediating stress. In general terms, role-based stress encompassed stressors that arose from interactions and attitudes related to a particular role in the organization. Conversely, task-based stress involved coordinating and communicating specific activities that monopolized administrator time. Boundary-spanning stress related to activities that connected

the school to the external environment and included such things as collective bargaining, dealing with regulatory agencies, and gaining public support for budgets. Finally, conflict-mediating stress dealt with exactly that – management of the conflicts inherent to the school environment.

Each of the four stress factors has been examined in relationship to other variables. While not an exhaustive list, researchers have used the framework to rank superintendent stressors (Bailey, 1990; Blair, 2010; Brimm, 2001; Richardson, 1998) and make correlations to variables such as age (Botts, 1986; Gmelch & Gates, 1998), other administrative positions (Botts, 1986; Creal, 1998; Gmelch & Gates, 1998), level of education (Botts, 1986), district size (Botts, 1986; Creal, 1998), and administrator burnout (Gmelch & Gates, 1998; Torelli & Gmelch, 1992).

Role-based stress. Stress originating from an administrator's role-specific interactions and their beliefs or attitudes about their role in the schools is considered role-based (Koch et al., 1982). Specifically within the ASI, this includes stress related items such as the inability to get proper information to do the job well, trying to resolve differences with superiors, and feeling a lack of authority to carry out responsibilities. When applied specifically to the superintendency, items in the role-based factor tend to be rated lower, often among the lowest, when compared to the other three factors (Blair, 2010; Botts, 1986; Koch et al. 1982; Richardson, 1998).

In considering how the role-based stress factor correlates with other variables, Gmelch and Gates (1998) identified an inverse correlation between this and job satisfaction, meaning that the higher the level of job satisfaction, the lower the role-based stress. When considering emotional exhaustion, Torelli and Gmelch (1992) reported a strong association between role-based stress, as well as the other three stress factors, and emotional exhaustion.

Role-based stress has also been considered in relationship to specific attributes of superintendents such as age, level of education, and experience. Koch et al. (1982) and Botts

(1986) found that despite prior reports that stress declined with age (Indik et al., 1964), role-based stress did not make such a decline. Considered from the perspective of the superintendent's level of education, Botts found no statistically significant differences between level of education and role-based stress. And Creal (1998), when considering experience as a superintendent, found that role-based stressors ranked low in comparison to other stressors across all levels of experience. Considering district characteristics such as school size, Creal (1998) and Botts (1986) found that superintendents from schools of all sizes rated items in the role-based category low.

Task-based stress. Stress arising from the performance of day-to-day administrative activities, telephone and staff interruptions, meetings, routine communication, and reports is considered task-based. This also includes stress that is generated by the administrator participating in school activities outside of the normal working hours, self-imposed high expectations, and a heavy workload (Koch et al., 1982). In Richardson's (1998) survey of Connecticut superintendents, three of the top six stressors identified were from the category of task-based stress.

Similar to the correlation identified above between job satisfaction and role-based stress, Gmelch and Gates (1998) identified an inverse correlation between job satisfaction and task-based stress, indicating that the higher the job satisfaction, the lower the task-based stress. When analyzed against the dimensions of burnout in the same study, task-based stress was found to be the best predictor of emotional exhaustion. When compared to the stress levels of other administrative positions, Torelli and Gmelch (1992) found task-based stress to be higher for principals than for superintendents. While superintendents are faced with tasks specific to their position, Torelli and Gmelch speculated that the responsibilities of superintendents fit more into

other factors, specifically the category of boundary-spanning stress.

Other variables under consideration in the literature include personal characteristics of those serving as superintendents, as well as characteristics of the schools in which they work. Botts (1986) found no significant differences in the frequency of task-based stressors across age groups, levels of education, or years of experience for the Iowa superintendents surveyed. Considering district characteristics such as school size, Botts found no statistically significant differences in the frequency or intensity of tasked-based stress of superintendents from schools of all sizes. Contrary to this, Creal (1998) found statistically significant differences between the specific task-based stressors, completing paperwork and a heavy workload, when compared by school size. In the Creal study, superintendents in small schools ranked this stressor significantly higher than those in large schools.

Boundary-spanning stress. Stress that emanates from external conditions, such as contract negotiations and gaining public support for school budgets is considered boundary-spanning (Koch et al., 1982). As referenced above, Torelli and Gmelch (1992) described the role of superintendent as more aligned with the boundary-spanning factor than other administrative positions, due in part to their responsibility for obtaining resources, gathering information, and making decisions of a broad scope. Torelli and Gmelch indicated that as superintendents interacted more with the larger community, boundary-spanning stress increased. Further, Torelli and Gmelch speculated that although principals experienced more task-based and conflict-mediating stress than superintendents, they did not experience the same intensity of boundary-spanning stress as superintendents. This finding confirmed a similar conclusion from the study by Koch et al. (1982).

In terms of frequency, Brimm (2001) reported that four of the top five stressors of

Tennessee superintendents were from the category of boundary-spanning stress. Similarly, two of the top three superintendent stressors reported by Botts (1986) were from the boundary-spanning category. And in terms of intensity, "being involved in collective bargaining" and "complying with state, federal and organizational rules and policies," both boundary-spanning stressors, were in the top two stressors for Iowa superintendents (Botts, 1986).

Koch et al. (1982) discovered that boundary-spanning stress, unlike the other three categories, increased with age and experience. The researchers speculated that this positive association between boundary-spanning stress, age, and experience might have been reflective of growing responsibilities in later career stages. However, in Bott's (1986) study, no significant differences in frequency or intensity were reported in boundary-spanning stressors when considered by superintendent age categories, years of experience, or level of education. District size also had no bearing.

Conflict-mediating stress. Stress arising from the task of handling conflicts within the school, such as trying to resolve differences between and among personnel, resolving parent and school conflicts, and handling student discipline problems is considered conflict-mediating (Koch et al., 1982). As summarized by Gmelch and Gates (1998), the stress that administrators experience is characterized by "constantly encountering other people on a conflict basis" (p. 156). Like the findings by Torelli and Gmelch (1992) regarding task-based stress and administrative positions, when compared to principal responses, conflict-mediating stress was lower for superintendents.

Gmelch and Gates (1998) reported a strong correlation between emotional exhaustion and conflict-mediating stress. In Bott's (1986) study, no significant differences were reported in frequency or intensity of conflict-mediating stressors when considered by superintendent age

categories, years of experience, or level of education. District size also had no bearing.

Stress in the superintendency, when considered from these four specific factors – task-based stress, role-based stress, boundary-spanning stress, and conflict-mediating stress – is complex. Specificity leads to understanding, and as a framework, these four factors provide detail to this investigation. Yet, delving deeper into each of these factors can be achieved when details of the variables mentioned above, in addition to other variables, are considered. Characteristics of superintendents, as well as characteristics of the schools they serve, provide another layer of potential understanding for the study of superintendent stress.

Person-Environment Fit

When applied to the framework referred to as person-environment (P-E) fit, characteristics of an individual, in this case the school superintendent, are considered person variables and characteristics of the schools they serve are considered environment variables. P-E fit has been broadly defined as the compatibility between an individual and their work environment that occurs when their characteristics are well matched (Kristof-Brown et al., 2005). As a framework for conceptualizing organizational behavior, organizational psychology, and human resource management, P-E fit has been widely studied (e.g. Ahmad, 2010; Edwards, 1996; Edwards et al., 2006; Edwards & Cooper, 1990; Edwards & Van Harrison, 1993; Kristof-Brown et al., 2005; Schneider, 2001; Wolverton et al., 2000; Yang et al., 2008). P-E fit has also been cited as a framework that is widely accepted among organizational stress researchers (Eulberg, Weekley, & Bhagat, 1988).

P-E fit began as a theory that would define the fit between personal motivation, goals, and values in relation to the resources provided in the work environment. Specifying the existence of a relationship as part of this definition is important in that it emphasizes that not

only is the match of the individual to the environment important, but that also the needs of the individual be met by the characteristics of the environment (French, 1972). In this way a relationship is the foundation. P-E fit draws its foundation from the human behavior studies of psychologist Kurt Lewin (2008). Lewin prescribed a fundamental equation of human behavior:

$$B = F\,(P, E)$$

in which behavior (*B*) is a function (*F*) of the person (*P*) and of the environment (*E*). In this formula for behavior, the person and the environment are not independent of each other, but rather are mutually dependent.

As a framework, P-E fit is a large concept that has been defined and measured in many ways, thus presenting a challenge to researchers, and necessitating clearly defined explanations of application in research. Schneider (2001) cited many manifestations of P-E fit, and Judge and Ferris (1992) described P-E fit as an elusive construct with a wide proliferation of conceptualizations, measures, and analytic approaches. Like the ambiguity described above in defining the concept of stress, a certain level of ambiguity exists for P-E fit in the absence of specificity.

To narrow the focus in the present review and to bring specificity, three separate approaches were considered. The resulting definition is a during-employment, person-organization, complementary fit orientation. First, a distinction can be made between before-employment fit, such as alignment of previous experiences to the position, and during-employment fit, including elements such as attitude, behavior, strain, performance, and tenure (Kristof-Brown et al., 2005). For the purpose of the present review, P-E fit was nested in the during-employment framework, considering personal dispositions such as leadership/management style, use of social supports, and self-determined amounts of time spent

at work versus time spent in non-work-related activities as an interaction with environmental factors such as characteristics of one's school.

In addition to this during-employment orientation and as a second consideration, Kristof-Brown et al. (2005) provided four delineations of P-E fit that clarified specific domains of the environment. This included person-job (P-J) fit, person-organization (P-O) fit, person-group (P-G) fit, and person-supervisor (P-S) fit. These four domains offered specificity to the environment side of the P-E fit relationship. For the purpose of the present review, P-E fit was conceptualized through the person-organization lens.

And finally, adding to the during-employment, person-organization orientation, a third delineation from Muchinsky and Monohan (1987) was be used to identify differences between complementary and supplementary fit. This distinction provided for clarification of the type of relationship between the two variables. In a complementary fit, consideration is given to characteristics that the person and the environment have in common. Muchinsky and Monohan applied this orientation to the individual's skills that specifically filled a complementary need in the environment, whereas Kristof (1996) expanded this as also including the ability of the environment to providing fulfillment of certain needs of the individual. Complementary fit occurs when an individual's characteristics fill a gap in the current environment, or vice versa (Kristof-Brown et al., 2005). Conversely, supplementary fit exists when the person and the environment are similar.

In a discussion on the measurement of P-E fit variables, Kristof (1996) pointed out that when measuring variables within the supplementary fit framework, commensurate measure of the person and the environment should be used. However, when measuring within the complementary fit framework, which is based upon variables that are complementary but not the

same, incommensurate measures would be appropriate. Ahmad (2010) advised future research should follow the recommended distinction in the use of commensurate and incommensurate measures. Because the variables under consideration in the present study were unique to either the person or environment, and therefore were not being measured on commensurate scales, a complementary fit framework was considered. Put together, a during-employment, person-organization, complementary fit orientation defined the present study and literature review. Figure 2.1 provides a visual representation of this convergence.

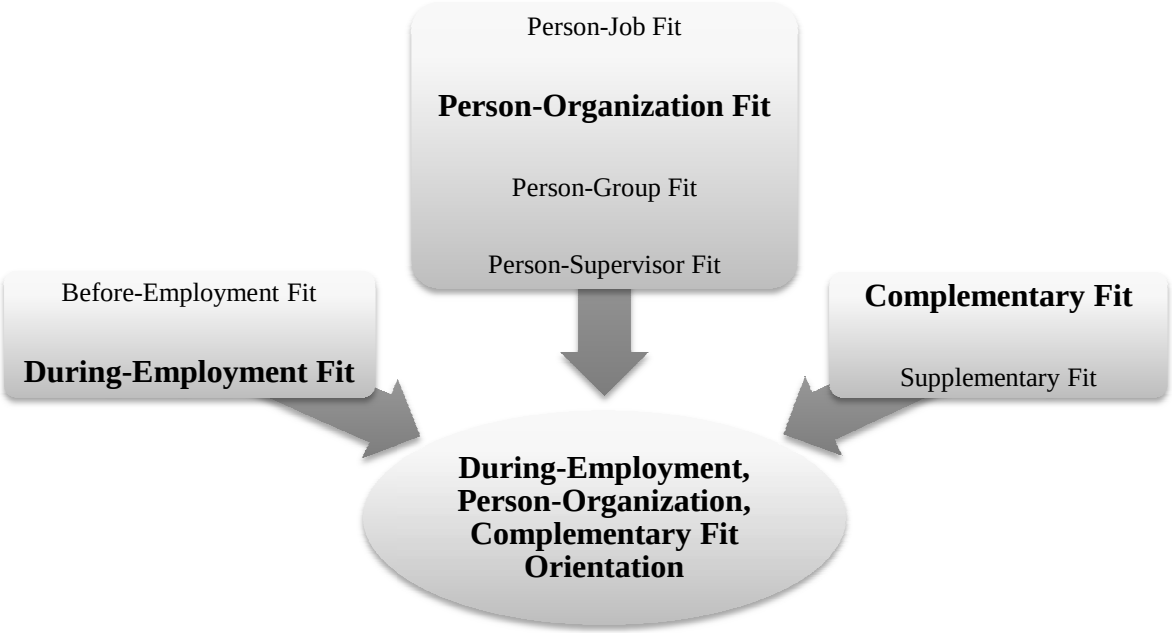

Figure 2.1 Convergence of Person-Environment Fit Perspectives

The opposite of complementary, or even supplementary, fit is misfit. In a comprehensive study of P-E fit by French et al. (1982), misfit was associated with strain, or stress. Misfit between the person and environment was found to lead to psychological, physiological, and behavioral strains. In a study to reexamine the analysis by French et al., Edwards and Van Harrison (1993) used a polynomial regression to analyze how person and environment together impacted an employee's well-being, and thus confirmed many of the elements of the earlier

study. The fit, or lack of fit, between the person and environment has been found to influence levels of job-related stress (Wolverton et al., 2000). With this prior research base serving as a foundation, P-E fit, and more specifically operationalized from the post-employment, person-organization, complementary fit orientation, served as a proven framework from which to approach the current study of superintendent stress.

Person Variables

While many characteristics of school superintendents have been considered for study, in the P-E fit framework of the present review, three main variables and several supporting variables were considered. Leadership and management style, the use of social supports, and time dedicated to one's work in comparison to time away from work will be considered as major variables. In addition, supporting variables such as gender, age, level of education, longevity, and the structure of other roles held by the superintendent were considered.

Leadership/management style. Leadership and management styles can and have been considered from a wide range of perspectives. There are innumerable sources to turn to for research on both, and often a distinction is made between the two. One way to make this distinction is to consider the comment from Kowalski (1999) that superintendents are often criticized for spending too much of their time on *administrivia*, or the nuts-and-bolts matters of school operation, in comparison to the time spent on educational leadership. Kowalski added that the management function remains an inescapable reality in the superintendency. Warren Bennis, well-known for his research and writing on the topic of leadership, made this distinction, "leaders are people who do the right things; managers are people who do things right" (1989, p. 36). He went on to write that both are important for those in leadership roles. For the purpose of this review, both leadership and management fall under the heading of leadership, understanding

that leading and managing have unique characteristics and skill sets, but also understanding that those in the role of superintendent are expected to perform in both domains under the title of executive leader.

Perhaps the most comprehensive review of leadership came from Bernhard Bass' Handbook of Leadership (Bass & Bass, 2008). Leadership scholars have cited this landmark publication through four editions spanning nearly 40 years. In addressing styles of leadership, Bass outlined several frameworks from which to differentiate the actions of leaders, including autocratic versus democratic, directive versus participative, task versus relations, initiation versus consideration, and most recently, charismatic versus transformational leadership. Also widely recognized as significant contributors to the leadership literature, Hersey and Blanchard (1969) developed a model for understanding leadership that is known as the Situational Leadership Model. Their model was built upon research that indicated leadership styles vary considerably from leader to leader and that leader behavior can range from task-based to relationship-based, with varying degrees in a spectrum between the two. Hersey and Blanchard concluded that the most effective leadership was that which most closely matched the behavior of leader to the needs of those under their direction. Gates et al. (1976) wrote, "there is no single all-purpose leadership style" and that "successful leaders are those who can adapt their behavior to meet the demands of their own unique environment" (p. 348).

Yet another variable characterized as elusive (Chan, Pool, & Strickland, 2001), leadership style can mean many different things. In a study of the 50 Superintendents of the Year for 2000, Chan et al. sought to gain insight into what makes a superintendent successful in the leadership role. Their survey contained 25 forced choice items of traits and behaviors they described as "often vital" (Chan et al., p. 6) to the superintendent's leadership and management

responsibilities. The highest distinction made by respondents, with 100% agreement, was that the "ideal superintendent" (Chan et al., p. 8) in terms of leadership style was more *observant and discerning* than *accepting and pacifying*. In summary of their findings, Chan et al. described the ideal superintendent as alert, up-to-date, and focusing concern on students first above others. In terms of leadership style, Chan et al. further described the ideal superintendent as an outgoing, go-getter who worked well with others; was ethical and efficient, innovative and imaginative; was caring, and was willing to work hard to see that their job made a difference. When asked to indicate their most frequently employed leadership style, 71% of respondents indicated a collaborative style and 19% indicated a situational style, leaving only a small number responding with a directive, compromising, accommodating, or delegating style.

Social supports. Social supports can be defined as the presence of a social network with the potential to provide help in situations where needed (Rakesh, 2012). Social support is generally categorized as being either instrumental support or emotional support (Carver, Scheier, & Weintraub, 1989; Jimmieson, McKimmie, Hannam, & Gallagher, 2010). Organized this way, instrumental support includes tangible assistance in the form of knowledge or advice needed to resolve an issue. Emotional support, by contrast, involves offering care or being sympathetic to another person. While empirical evidence is mixed on the actual impact of social supports, they are widely accepted as potential moderators in reducing the negative effects of job-related stress (Beehr, Farmer, Glazer, Gudanowski, & Nair, 2003; Cohen & Wills, 1985; Gmelch & Gates, 1998; Jimmieson et al., 2010).

According to Chan et al. (2001), all effective leaders seek counsel from others, be that family members or an experienced colleague. In Chan et al.'s study of successful superintendents, they identified that for more than 40% of superintendents, this confidant was the

board president. And for information and advice on legal issues, over 90% sought support from the board appointed legal counsel. Kowalski et al. (2011) discussed the tendency of superintendents to turn to colleagues for advice and assistance, reporting 66% experiencing considerable or moderate influence from their peers. Chan et al. reported that their most significant finding, in terms of social support, was the need of a superintendent to have quality support, in the form of mentoring, especially those new to the superintendency. Bjork and Keedy (2001), in a study focused mainly on the underrepresentation of women in the superintendency, echoed this recommendation.

Time management. To some degree, just the complexity of the position described in an earlier section supports an assumption that the average 40-hour week does not fit the workload of a superintendent. In their study of the 50 Superintendents of the Year for 2000, Chan et al. (2001) found that no superintendent worked for 40 or fewer hours a week. In fact, more than 85% of respondents worked 50 or more hours per week, and more than 40% worked more than 60 hours per week. From their survey of Maine superintendents, Eastman and Mirochnick (1991) concluded that demands on superintendents left them with little time to pursue individual social and leisure needs. The most significant stressor reported in their study was the year-round time demands associated with the superintendency. These findings were echoed in the responses offered in a 2003 survey of school administrators by Farkas et al. While Botts (1986) found no differences in the stress levels of superintendents based upon the number of hours worked each week, no superintendent responding to his survey reported working fewer than 40 hours a week. Instead, approximately 80% worked up to 60 hours per week. Long hours spent on the job also affect other aspects of a superintendent's life. Yvarra and Gomez (1995) reported that the most

frequently identified stressor of Wisconsin superintendents was having little time left for their marriage and family.

Referring to a condition called *workaholism*, McKay (2004) described a condition of work addiction among school administrators, a neglected but serious concern that is commonly considered an asset rather than a liability. This inability to regulate work habits and to over indulge in work to the exclusion of normal life activities was referred to by McKay as common for school administrators, who are considered or consider themselves to be on duty every hour of every day. In his survey of 800 school principals and superintendents, McKay (2002) found that almost 43% considered themselves on the way to becoming, already being, or in denial of being a workaholic. Responding superintendents also reported that on average they lost between one and two weeks of paid vacation each year. Over half of the respondents in the earlier Easton and Mirochnick (1991) survey reported that they did not use all of their vacation time, averaging about 70% usage of annual vacation time. McKay also found that school administrators spent an average of four evenings each week attending school-related activities, a finding that supported the report from Byrd et al. (2006) that extracurricular activities required many hours of attention each week for superintendents.

Other person variables. The literature surrounding both the superintendency and stress is saturated with the use of other variables. In the present study, five such supporting variables added depth to the analysis. While all five variables frequently appear in studies of the superintendency and of stress, only literature reporting an interaction of these support variables with the dependent person and environment variables, or the independent variable stress, were reviewed.

Gender. The first of these, gender, has been applied to several of the variables under consideration. In an early study by Indik et al. (1964), job-related strain was reported to have been higher among men than women in virtually all age and educational subgroups. Later, Gmelch (1996) and Keedy et al. (2007) confirmed this finding that women superintendents perceived less stress than their male counterparts.

Considering leadership, Chan et al. (2001), in their survey of Superintendents of the Year, found that perceptions of the ideal leader were the same for female and male respondents in 24 of 25 items surveyed. In a qualitative review of gender discourse, Skrla et al. (2000) described a higher level of scrutiny and questioning of leadership abilities reported by female study participants. Similarly, participants in Wallin and Crippen's (2007) qualitative study reported that while the need to adapt their leadership style to a more masculine style still existed, it was beginning to diminish.

Age. The second support variable, age, also appears in multiple instances when applied to the variables under consideration. In the early study by Indik et al. (1964), job-related strain was reported as generally lower among older people. They also reported a higher rate of decline in job-related strain considered with age for those with lesser education. Results of Bott's (1986) study of Iowa superintendents and occupational stress showed a difference in the intensity of reported stressors among age groups, with superintendents between the ages of 40-49 having higher intensity of stress than those in the age range of 50-59. Considering leadership, Chan et al. (2001), in their survey of Superintendents of the Year, found that the perceptions of the ideal leader were the same when considered by age group, with only four exceptions. And only four items were significantly different when considered by age group.

Level of education. The third supporting variable, level of education, varies from superintendent to superintendent and from state to state. Most superintendent preparation programs offer similar courses in school administration, including finance, personnel administration, organizational theory, school law, and school-community relations (Glass et al., 2000). Yet there is no national curriculum for the preparation and licensure of school superintendents. While some states allow the acquisition of a superintendent's license without having completed a specific preparation program, Kowalski et al. (2011) found 85% of survey respondents had completed such a program. In some cases, superintendents complete a doctorate program, including both Ph.D. and Ed.D. degrees. No state requires a doctorate for superintendency licensure, yet the percentage of superintendents holding these degrees increased gradually from 29% in 1971 to 51% in 2006, with a slight decrease to 45% in 2010 (Kowalski et al., 2011). Regardless of the requirements, superintendents in the studies by Farkas et al. (2001, 2003) reported that the average preparation programs were not aligned to the actual skills need to effectively provide leadership for schools.

Regarding stress levels for superintendents, Botts (1986) reported no statistical significance in the frequency or intensity of stressors when analyzed by a superintendent's level of education. Chan et al. (2001), in their survey of Superintendents of the Year, found that there were no significant differences among level of education when considering the perceptions of the ideal leader. And regarding tenure, Natkin et al. (2002) reported a correlation between tenure and level of education. Specifically, they reported that the median tenure was approximately one year longer for each level of education acquired.

Longevity. A fourth supporting person variable under consideration is superintendent longevity, also referred to as tenure. While a significant source of data in this area is the ongoing

series of AASA surveys, these lack analysis of relationships between variables. To obtain this depth of analyses, consideration must be given to the factors identified as reasons superintendents leave districts. For example, Farkas et al., (2001) and Farkas et al. (2003) indicated that over 80% of superintendents reported feeling frustrated with politics and bureaucracy. Byrd et al. (2006) reported that the average tenure for superintendents decreased as the level of difficulty in working with the board president or board members increased. In contrast, both Botts (1986) and Creal (1998) found no statistically significant differences in the frequency and intensity of stress for superintendents of differing tenure.

Most respondents in a national survey of superintendents conducted by Fusarelli et al. (2003) reported agreeing that the nation was facing a shortage of applicants for the superintendency, that it was experiencing a crisis in school leadership, and that the quality of candidates to the position was declining. When asked about factors that inhibited superintendents from staying in the superintendency, Harris et al. (2004) cited paperwork/bureaucracy, community politics, and working with the school board as the top three factors. In a survey specific to the superintendents in the nation's largest urban districts, Fuller et al. (2003) concluded that many of the conditions of the superintendency actually set superintendents up for failure. Respondents agreed that the superintendency was a position that virtually precluded individuals from doing what they were hired to do, that local school dynamics competed for power, and that there existed an endless list of pending crises.

In the AASA survey of superintendents, Kowalski et al. (2011) found that one in three respondents reported leaving their current position to assume a new challenge. The next most frequent response as to why they departed a district was conflict with the school board. Factors identified by Natkin et al. (2002) as significantly related to shorter tenure were high poverty of

students in the district, minimal support for construction of new facilities, and micromanagement by the school board. The sum total of the many studies citing reasons superintendents leave a district results in relatively short tenures within the profession.

Superintendent roles. Superintendents of some districts hold official titles other than serving solely as the superintendent. Beyond the complexity of the superintendent role, the position can also include the role or curriculum director, building principal, or even a shared superintendency with another school district. In a survey by Creal (1996), responding superintendents serving in multiple roles reported more stress than single role superintendents. By contrast, an earlier survey by Botts (1986) indicated no statistically significant differences.

Environment Variables

The other half of the equation, in terms of P-E fit, involves the environment. Many factors might be considered as relevant environmental variables to draw into the study of P-E fit as it relates to stress in the superintendency. Considering the post-employment, person-organization, complementary fit orientation, four variables were chosen to include in this research study.

School size. When considering the environment in which a superintendent works, school size is often a consideration. School size is gauged by the number of students enrolled in a district, and thus considered to be the responsibility of the superintendent. Such data are often categorized into ranges of enrollment that then allow for layers of data disaggregation. For example, in the ongoing AASA surveys, district enrollment is grouped into four categories – fewer than 300 students, 300-2,999 students, 3,000-24,999 students, and 25,000 or more students. In the most recent of these surveys, 9% of respondents served schools of the lowest enrollment classification, 59% served those of the 300-2,4999 range, 29% served the 3,000-

24,999 range, and a scant 3% served the largest enrollment category (Kowalski et al., 2011).

Considering superintendent stress, the study of Iowa superintendents conducted by Botts (1986) resulted in no statistically significant differences in the frequency and intensity of stressors when compared by school size. In a later study of South Dakota superintendents, Creal (1998) reported that superintendents from small schools perceived significantly more stress than either the medium district group or the large district group, both in overall stress and specifically on items from the boundary-spanning stress factor. While not specifically a measurement of stress, superintendents participating in a survey by Cooper et al. (2000) showed agreement across distinctions of small, medium, and large districts regarding their perception of whether or not the superintendency as a whole was in a state of crisis. The vast majority agreed that such was the case.

While Natkin et al. (2002) referred to the commonly cited impact of school size on superintendent longevity, their own findings did not support this belief. However, in the Cooper et al. (2000) study, respondents from large districts experienced the shortest tenure when compared to their colleagues in medium and small size schools. When adding the variable gender to these responses, data indicated that male superintendents, on a percentage basis, served large districts proportionately less than females.

In terms of distribution by age categories, Cooper et al. (2000) found that there were proportionately more older superintendents serving the largest school districts and more younger superintendents serving medium and small size districts. And when considering the level of education of superintendents responding to their survey, Cooper et al. found a relatively low percentage of doctorate degrees earned by superintendents serving in small schools. They speculated that school boards in rural and smaller communities might not expect to find and

employ candidates with such qualifications. No respondents from large districts had a level of education below a doctorate degree. In terms of leadership and school size, participants in a case study by Rueter (2009) indicated that the expectations for the leadership role of superintendents differed as throughout their careers they first served districts with fewer than 10,000 students and later larger districts.

Socioeconomic status. According to the National School Lunch Program, children from families with incomes at or below 130 percent of the poverty level are eligible for free lunch, and children from families with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced price lunch (United States Department of Agriculture, n.d.). The number of students qualifying for free or reduced priced lunches is a means of quantifying the socioeconomic status of the student population. When used as an independent variable in the study of superintendent stress for Iowa superintendents, Botts (1986) found no statistically significant differences as he analyzed the frequency and intensity of reported stressors. However, when comparing data from North Carolina to a national sampling, Natkin et al. (2002) found highly significant differences in superintendent tenure when the analysis included this measurement of poverty level. Median tenure of superintendents decreased significantly as the socioeconomic status of students within their school decreased.

District type. In terms of location, not all schools are alike. Some are located in a rural setting, while others, referred to as urban schools, are located in the heart of the city. Others are neither and are located in the suburbs. Rural does not necessarily represent small. Rather, district type, be that rural, suburban, or urban, functions as a distinctly different independent variable than school size. According to Lamkin (2006), many small districts exist in urban and suburban settings. Rural districts can also span many miles and thus serve large numbers of students. This

variable then serves as a unique characteristic of a district related to population density, occupational differences, and general structure.

In a study designed around focus group conversations with superintendents serving rural districts, Lamkin (2006) identified challenges unique to this particular setting, including a lack of adequate training in certain skill sets that were unique to the rural setting, as well as the unique environmental characteristics of the rural setting. Trevino et al. (2008) found statistically significant differences in the challenges reported by superintendents when compared based upon district type. In contrast, Hentschke, Nayfack, and Wohlstetter (2009) interviewed superintendents from urban districts to identify leadership behaviors considered unique to the challenges of such a setting. And in a study highlighting problems faced by urban superintendents, Fuller et al. (2003) identified stressors that included working with school boards, teacher unions, and other staff; political pressures from other entities; and inadequate preparation and unrealistic expectations.

When considering the type of district current superintendents were most attracted to for various reasons, Fusarelli et al. (2003) found that suburban districts were most frequently cited. Rural districts were next most attractive, with urban districts ranking last. Cooper et al. (2000) reported similar findings. As an independent variable they referred to as demographic setting, Natkin et al. (2002) found no statistically significant differences when considered as an impact on superintendent longevity. Botts (1986) also found no statistically significant differences as he analyzed the frequency and intensity of stressors reported by superintendents. Similar results were reported by Yvarra and Gomez (1995).

Impact of available funding. According to McCord and Ellerson (2010), schools are not immune to the most recent economic downturn. The AASA Economic Impact Study series

indicated that school districts in every part of the country are subject to the realities of the economic downturn (McCord & Ellerson, 2009). In the most recent of the AASA surveys, 75% of respondents described their districts as inadequately funded, requiring significant budget cuts that impacted essential programs and services. McCord and Ellerson wrote, “the day-to-day cash management and fund capital development of a school district are challenging in the best of times” (p. 3), indicating that this phenomenon has intensified under recent circumstances. Twenty-one percent of respondents reported the use of short-term borrowing to manage cash flow for payroll and accounts payable. When disaggregated by district size and geographic location, the impact was virtually the same, with slight elevation on the east coast of the United States. Superintendents in a study by Glass and Franceschini (2007) reported lack of funding as the “number-one problem” facing their districts (p. 59). And when considering other impacts of declining financial health, McCord and Ellerson also indicated that budget cuts have an impact on students in the form of reductions in personnel, programs, and activities. Kowalski et al. (2011) echoed these findings and through their more recent national survey of superintendents confirmed that school superintendents saw inadequate funding as a major problem.

Compounding the stress produced by the overall economic downturn in this country are the growing regulations on schools from state and national levels of governance. In a study of how the superintendency has changed over time, Rueter (2009) found the area of school finance issues to be among the top five most significant change areas in the governance and operations of a school district. Indicative of the national stage, she reported that Texas school district leaders were experiencing growing involvement from government related to how funds could be spent at the district level. While a large percentage of revenue may be generated by local taxes, Rueter reported that regulations often dictated the specific use of these funds.

The impact of the state of the economy and the growing regulations related to financial operations of a school district have been shown to impact superintendent stress. Rueter (2009) reported increased levels of frustration from superintendents regarding the impact of limitations on programming and student opportunities. Amount of funding, or rather the lack of such, ranked as the second highest challenge facing superintendents in a study by Trevino et al. (2008), with no statistically significant differences in this area when the analysis considered district location or district size. Farkas et al. (2003) reported insufficient funding as the biggest challenged faced by superintendents. Probing deeper into the problems associated with school finance, Farkas et al. found unfunded mandates from the state and federal level to be a significant source of concern.

There are other elements of school finance and overall financial health in districts that have been reported as stressors. The structures of school finance and the formulas used to develop individual school budgets vary from state to state, and the complexity associated with the structures in some states contribute to the stress of superintendents (Lamkin, 2006). With the vast majority of school budgets allocated to human resources, stress around maintenance of district financial health encompasses topics such as contract negotiations, personnel matters, and working with unions. In her study of rural superintendents, Lamkin found personnel and contract management, as well as the power of unions, to be among the biggest challenges reported.

Summary

The purpose of this study was to identify relationships between personal and environmental variables and stress management of superintendents using the theoretical framework of person-environment fit. As a foundation, three strands of literature were reviewed. First the position of school superintendent, including the historical evolution of the position and

a description of the current state of the school superintendency, has been explored. Second, the review included literature on stress in general, job-related stress, and then, specifically, stress as it related to the superintendency. The third and final section included a review of person-environment (P-E) fit, which served as the framework for this study. In addition, other variables representative of superintendent demographics were examined. Chapter Three provides additional details regarding the methodology of this study.

CHAPTER 3

METHODOLOGY

A study of the alignment between personal and environmental factors and stress management is important to the work of practicing and aspiring superintendents. The purpose of this study was to identify such relationships that may be useful in making personal decisions regarding leadership/management style, use of social supports, and time management on a day-to-day basis. An analysis of these variables in the personal domain, as well as variables related to district characteristics in the environmental domain, and levels of job-related stress was conducted through survey response data from practicing superintendents in the Midwest.

This chapter provides detailed information regarding the research design including a description of the research questions considered; methodological approach; discussion of the setting, participants, data collection, and survey instrument employed; and an examination of the variables and data analysis. The chapter concludes with delimitations and limitations of the study.

Research Design

This study used a quantitative approach and survey research methodology with a postpositivistic theoretical perspective. Choices made in the development of scholarly research stem from the way a researcher views the world around them and, in turn, impact the way questions are posed and answers are sought (Creswell, 2009). Being explicit with the philosophical orientation of this study creates a foundation of confidence for the reader in that the choices made by the researcher will flow in a logical manner and bring logical focus to the topic under consideration. Theories provide a framework for thinking about interrelationships of constructs (Mertens, 2010) and inform the methodology that will follow (Crotty, 1998).

Theoretical perspectives answer questions regarding basic assumptions and truths foundational to the research design that follows.

Postpositivism assumes that an objective reality exists, and that this reality can be effectively measured given that the correct tools are selected (Butin, 2010). Postpositivists hold a deterministic philosophy in which causes determine effects and outcomes (Creswell, 2009). Put this way, the research questions in this study, with an emphasis on cause and effect, are clearly situated in this postpositivistic perspective. Drawing on the P-E fit theory and Lewin's equation of human behavior, level of stress is the end result or outcome of the interaction between the person and their environment. Asking the question to what extent this outcome can be predicted by measuring the person and environment variables lies soundly in the methodological designs of the postpositivistic perspective.

Methodological Approach

A common methodology used to collect data in postpositivist research is the use of surveys. Surveys can be designed to provide statistical descriptions of people (Fowler, 2009). The purpose of using survey research is to generalize from a sample to a population so that inferences can be made about a characteristic, attitude, or behavior (Babbie, 1990). While there are many possible purposes for conducting a survey, Babbie suggested three general objectives: description, explanation, and exploration. As a means of describing, the focus is less on why something exists, but rather on the actual existence of certain traits or attributes. Explanation, separate from this description, can be obtained through surveys when multivariate analysis, or the simultaneous examination of two or more variables, is applied. By examining potential relationships between certain identified variables, the researcher makes an attempt to provide

explanation. And finally, as a third purpose, survey research can provide a means for initial inquiry into a topic.

For the present study, the design choice to use survey research, as well as the choice of the six related research questions that follow, lies in the first two purposes supplied by Babbie (1990), description and explanation. First, as a means of description, the researcher used survey data to quantify a select list of internal (person) and external (environment) variables for Midwest superintendents. Second, the search for explanations of the relationship between these independent variables and the dependent variable, superintendent stress, was facilitated by survey data collection.

Data collection was conducted through a self-administered online, or Internet, survey and therefore represented a snapshot in time as reported by practicing superintendents. Compared to the extensive histories of other research methodologies, online surveys are relatively new. And yet, with the proliferation of electronic communication, online surveys provide a low cost, fast, and efficient mode of data collection (Sue & Ritter, 2007).

Research Questions

The following questions guided this quantitative research study.

1. What are the background characteristics (Person) of Midwest superintendents?
2. What are the external variables (Environment) reported by Midwest superintendents?
3. Is there a statistically significant relationship between a superintendent's age, level of education, and longevity and stress factors associated with the superintendency?
4. Is there a statistically significant difference associated with gender and stress factors associated with the superintendency?

5. Is there a statistically significant difference based on a superintendent's job assignment and stress factors associated with the superintendency?
6. To what extent do the person variables (leadership/management style, social support, time in non-job-related activities, time in work-related activities) and the environment variables (district size, SES, regional classification, impact of available funding) predict stress factors associated with the superintendency?

Sample and Participants

Participants in this research study were practicing superintendents in the Midwest. Specifically, this included 992 superintendents in North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, Missouri, Wisconsin, Illinois, Michigan, Indiana, and Ohio.

Using a database of Midwest superintendent email addresses, a notice of invitation that included a description of the research being conducted was sent to 4,206 Midwest superintendents for whom an email address was obtained. This invitation (Appendix A) contained a link to the online survey. The survey was administered using Qualtrics software. Reminder emails (Appendix B) were sent as a reminder to complete the survey. Considering the 4,206 invitations distributed electronically, the overall response rate was 23.6% (n=992). Further illustrating the interest in this topic of study, of the 992 responses, 53 included a direct request to receive results in aggregate form as offered in the invitation email.

Survey Instrument

The survey instrument (Appendix C) was developed as a compilation of several existing surveys. Where necessary, author approval for use of instruments or survey questions was received. An additional section to collect descriptive data designed by the researcher was also added. Four distinct sections comprised the survey. Part 1 consisted of 13 questions related to

biographical background, including such items as years of service as a superintendent, age, gender, highest level of education acquired, student enrollment of the current district served, socioeconomic makeup of student population, and hours spent in activities for work and outside of work.

Part 2 consisted of a 35 item inventory of administrative stress that was originally created to overcome deficiencies in the measurement of stress associated with school administrative positions (Koch et al., 1982). In an exploratory study of Oregon school administers, Gmelch and Swent (1982) expanded on a 15-item inventory of Job-Related Strain (Indik et al., 1964) by including items from literature of the time and from recommendations of practicing school administrators. The resulting assessment was a more comprehensive, 35-item assessment known as the Administrative Stress Index (ASI). By way of a factor analysis, Koch et al. (1982) extracted four factors from the construct of administrative stress. Seen as a multifaceted and multidimensional construct, this analysis clustered 25 of the 35 ASI items into role-based stress, task-based stress, boundary-spanning stress, and conflict-mediating stress. In general terms, role-based stress encompassed stressors that arose from interactions and attitudes related to a particular role in the organization. Conversely, task-based stress involved coordinating and communicating specific activities that monopolized administrator time. Boundary-spanning stress related to activities that connected the school to the external environment and included such things as collective bargaining, dealing with regulatory agencies, and gaining public support for budgets. Finally, conflict-mediating stress dealt with exactly that – management of the conflicts inherent to the school environment.

To complete Part 2, participants were asked to identify the degree to which each of the 35 items bothers them by choosing from a range, 1-5, relative to the level of bother, where 1 =

rarely or never bothers them and 5 = frequently bothers them. Example items included “trying to resolve differences with my superiors,” “feeling that meetings take up too much time,” and “trying to gain public approval and/or financial support for school programs.”

Part 3 was a social supports questionnaire in the form of an abbreviation of the COPE Inventory (Carver et al., 1989). The COPE Inventory, in its entirety, was developed to assess a broad range of coping responses, some considered dysfunctional and others functional. Items in the inventory were structured to gather data on the extent to which individuals usually do the things listed when they are stressed. With permission from the researchers, items from COPE can be selected for use without using the full inventory (Carver, n.d.). Eight items from the original COPE Inventory were chosen for the present survey based upon constructs established at the time of the original development. Based upon a factor analysis, four items from the original 60 converged for the factor labeled, “seeking social support for instrumental reasons” and another four converged for the factor the researchers labeled “seeking social support for emotional reasons” (Carver et. al., 1989). To complete Part 3, participants were asked to identify their typical response from a list of four options, 1 = “I usually don’t do this at all,” 2 = “I usually do this a little bit,” 3 = “I usually do this a medium amount,” and 4 = “I usually do this a lot.” Items included such things as “I try to get advice from someone about what to do” and “I talk to someone to find out more about the situation.”

Part 4 of the survey was a leadership/management inventory consisting of 25 forced choice items asking respondents to identify which trait or behavior they believe more closely described them. Example items included forced choices between being child/youth oriented or teacher oriented, being perceptive/insightful or knowledgeable/informed, and being risk-taking/bold or moderate/temperate. The traits and behaviors included in this inventory were

described by Chan et al. (2001) as often vital to how a superintendent carries out leadership and management responsibilities.

This survey of school superintendents' traits and behaviors was originally created by the late Dr. Harbison "Bud" Pool, Professor Emeritus of Georgia Southern University in the 1990's. While the original survey could not be retrieved, Dr. Tak Cheung Chan, Dr. Pool's colleague, took the initiative to recreate this survey by maintaining the same format and language. In email communication with Dr. Chan (January 22, 2013), the researcher described the survey as a tool that can be employed in soliciting self or anyone's perception of the school superintendent. With permission from Dr. Chan, the survey, "Traits and Behaviors of the Ideal Superintendent" was included in its entirety as Part 4 of the present survey.

Data Collection

The four-part survey was distributed via email to superintendents currently working in the Midwest and for whom an active email address was obtained. Participants were invited to take part in a confidential online survey being conducted as a dissertation research project for a Drake University doctoral candidate. Emails informed potential participants of the purpose of the study and that participation was voluntary. The email explanation also detailed that by accessing the link to the survey, they were giving their consent to participate. Qualtrics online survey software was utilized to deliver the survey, as well as to collect the data. Approximately one week after the survey link was sent to superintendents, an email was sent as a reminder to consider participation. The survey closed two weeks after this last email.

Variables

Through operationalizing the P-E fit framework and using results from the survey described above, this study examined the person and environment variables as predictors of superintendent stress. Independent variables identified as being attributed to the individual were

considered person variables, and those identified as externally influenced were considered environmental variables. Organized in this way, person and environment, independent variables included leadership/management style, social support, time in non-job-related activities, time in work-related activities, district size, SES, regional classification, and impact of available funding. All independent and dependent variables are described in the following subsections.

The dependent variables in this study were five areas of superintendent stress as identified through an exploratory factor analysis – board-relations stress, task-based stress, expectation-based stress, resource-management stress, and self-efficacy stress. Table 3.1 provides a summary of the independent and dependent variables and how each was measured.

Independent Variables

The descriptions and measurement design for internal (person) and external (environment) independent variables are described below.

Background characteristics. Independent variables characterizing the participants included age, gender, highest level of education, number of years serving as a superintendent both in the participant's entire career and current district, and a description of the participant's role as a superintendent.

Age. The current age of each participant was recorded as a continuous variable.

Gender. Participant sex was measured through self-identification labeled as gender.

Education. For the highest level of education variable, participants selected Masters; Ed.S.; Ed.D. or Ph.D., In progress; or Ed.D or Ph.D. The variable was coded with higher numbers representing higher degrees in education.

Superintendent longevity. Longevity as a superintendent was collected in two ways, first as the total number of years served within the participant's entire career, and second as the total number of years served in the participant's current district.

Table 3.1

Summary of Independent and Dependent Variables with Measurement Type

Type of Variable	Variable	Type of Measurement
Independent Variables: Background Characteristics	Age	Scale
	Gender	Nominal
	Highest level of education	Ordinal
	Years as a superintendent	Scale
	Structure of current role	Nominal
	State in which district is located	Nominal
Independent Variables: Personal Variables	Leadership/management style – collaborative/collegial	Nominal
	Leadership/management style – extroverted/gregarious	Nominal
	Leadership/management style – innovative/change orientated	Nominal
	Leadership/management style – relationship orientated	Nominal
	Seeking social support for instrumental reasons	Ordinal
	Seeking social support for emotional reasons	Ordinal
	Hours per week spent doing non-job-related activities	Ordinal
	Hours per week spent doing job-related activities beyond the traditional 40 hour work week	Ordinal
Independent Variables: Environment Variables	District size	Ordinal
	District SES	Scale
	District classification of rural, suburban, or urban	Nominal
	Impact of available funding	Ordinal
Dependent Variables	Administrative stress – board-relations stress	Ordinal
	Administrative stress – task-based stress	Ordinal
	Administrative stress – expectation-based stress	Ordinal
	Administrative stress – resource-management stress	Ordinal
	Administrative stress – self-efficacy stress	Ordinal

Superintendent role. To collect data regarding the varying structures associated with the superintendency, participants selected the label that most closely reflected their role: superintendent of one district, superintendent of more than one district, superintendent and elementary principal, or superintendent and secondary principal.

Person variables. Independent variables characterized as internal or related to the person within the context of P-E fit included leadership/management style, the use of social supports,

and the measurement of time spent doing non-job-related activities each week and work-related activities beyond the traditional 40 hour work week.

Leadership/management style. Within the survey, participants were asked to complete a leadership/management inventory consisting of 25 forced-choice statements. Participants were asked to choose between two traits or behaviors, indicating which best represented their approach or style. For example, participants chose between "constructively critical" or "nonjudgmental." Reponses were counted and converted to percentages. Using this example, if all participants were to select "constructively critical," the data would be presented as 100% for "constructively critical" and 0% for "nonjudgmental." The traits or behaviors in each forced-choice item were not always opposites, and in some cases both might have even be considered desirable. The results indicated dominant leadership/management style characteristics of Midwest superintendents. Four characteristics were chosen for further analysis: collaborative/collegial, extroverted/gregarious, innovative/change orientated, and relationship orientated. Each was then recoded as a dichotomous variable using 1 if the participant selected the chosen characteristic, such as 1 = collaborative/collegial, and 0 if the participant selected the other choice of the pair, indicating 0 = not collaborative/collegial.

Collaborative/collegial. Several items on the Administrative Stress Index (ASI) reflect interactions between a superintendent and others, whether it be board members, staff members, or community members. Because there is a unique dynamic to each of these interactions, the characteristic from the leadership/management inventory referred to as collaborative/collegial was chosen for inclusion. The opposing characteristic for this inventory item, self-reliant/independent, represented the dichotomous nature of this item. Preferred by nearly 70% of the respondents in the present study, collaborative/collegial represented inclusion of others and

an ability to share information and ideas. Sirman (2008) described collaborative leadership as requiring "the ability to connect with anyone in the organization" (p. 35).

Because the nature of the superintendency also involves making connections beyond the internal aspects of an organization, including this leadership/management characteristic also offered insight into external relationships. In a review of the impact of collaborative leadership on higher education, Humphreys (2013) wrote that collaborative leadership could "(1) develop greater understanding…to garner the financial and regulatory support we need to maintain healthy institutions; (2) increase the efficiency with which we maintain the quality of our operations; and (3) develop more effective ways to…meet twenty-first century demands" (p. 4-5).

Extroverted/gregarious. Extroverted/gregarious and quiet/unobtrusive appeared as a forced choice pair on the leadership/management inventory, and were closely matched in response rates. When describing what she called the Extrovert Ideal, Cain (2013) wrote that it was the "omnipresent belief that the ideal self is gregarious, alpha, and comfortable in the spotlight" (p. 4). While definitions of extrovert and introvert are plentiful, Cain summarized several key commonalities in the definitions found in recent research literature. She wrote that researchers tend to agree introverts and extroverts react differently to outside stimulation such as meeting new people or experiencing adventures, they approach work differently and at different paces, and they present different personalities. Because of the near even split in responses, extroverted/gregarious 52% and quiet/unobtrusive 48%, and because of the clear distinction between these two opposing characteristics, the slightly dominant characteristic of extroverted/gregarious was added to the analysis.

Innovative/change orientated. Research articles and books in the area of organizational change abound, and they often begin with a general statement referencing the commonality of change (e.g. see Kotter, 1996; Piderit, 2000; Self, Armenakis, & Schraeder, 2007; Wanberg & Banas, 2000). Authors such as these spend little time building a case that change is worthy of study; they rely instead on an assumption that the presence and impact of change is readily accepted. If this is the case, the ability to navigate and manage change might be considered a critical competency for superintendents. The forced choice pair for this leadership/management inventory was innovative/change orientated or patient/steady. The dominant response was innovative/change orientated with 63%. Because change is not often readily accepted, and the desire for status quo is a strong motivator in systems (Senge, 1990), this characteristic was added to the analysis.

Relationship orientated. The two-dimensional model of basic leader behavior by Hersey and Blanchard (1969) evaluates a person's leadership as a combination of task behavior and relationship behavior. In this model, task behavior is defined as the extent to which leaders are more likely to organize and define the roles of the members of a group and to explain what each activity each is to do. By contrast, leaders exhibiting relationship behavior are more likely to maintain personal relationships between themselves and members of their group. As an expansion of the two-dimensional model by Hersey and Blanchard; Hersey, Blanchard, & Johnson (2006) created a tridimensional model which added a third dimension of "effectiveness." The effectiveness dimension is dependent on how appropriate the leadership style, either relationship based or task based, is to the situation. Using this third dimension as rationale, the relationship orientated characteristic was added to the analyses within this study.

Social supports. As a subset within the survey, participants were asked to respond to eight unique statements that are descriptive of how the participant seeks social support. Grouped into two categories, these social supports are used either for 1) instrumental, or problem focused, reasons such as seeking advice, assistance, or information or 2) emotional, or emotion focused, reasons such as moral support, sympathy, or understanding (Carver et al., 1989). Participants were asked to indicate what they generally do when experiencing stressful events based on a 4 point Likert-type scale with 1 = "I usually don't do this at all" and 4 = "I usually do this a lot." Items included *I try to get advice from someone about what to do* and *I try to get emotional support from friends or relatives*.

Each of the eight items was scored independently and then analyzed through a factor analysis to confirm two constructs – "seeking social support for instrumental reasons" and "seeking social support for emotional reasons" – as identified by Carver et al. (1989). According to Tabachnick and Fiddell (2007), factor analysis is used to determine "which variables in the set form coherent subsets that are relatively independent of one another" (p. 607). The variables are then considered correlated and result in a new variable or *factor*. These new variables have also been referred to as *constructs* (Green & Salkind, 2011). The goal of factor analysis is to generate more concise measures by combining a number of variables into a smaller number (Tabachnick & Fidell, 2007). Green and Salkind (2011) referred to factor analysis as a data-reduction technique that reduces redundancy, or overlapping variables.

Principal components analysis with varimax rotation was used in the factor analysis. Varimax is a variance maximizing procedure achieved by "making high loadings higher and low ones lower for each factor" (Tabachnick & Fidell, 2007, p. 629). In doing so, newly developed variable subsets have the opportunity to become more evident. Tabachnick and Fidell (2007)

recommended interpreting variables only if they load at .32 or higher. Taking into consideration that "the higher the loading, the closer the association of the item with the group of items that makes up the factor" (Vogt & Johnson, 2011, p.139), a conservative approach of only including items that loaded at the .44 level or greater for each factor was employed.

Kaiser's measure of sampling adequacy (KMO), reflecting whether the correlations under analysis are sizeable enough for use in the factor analysis, was evaluated. Using a value of at least .6 to evaluate the goodness of fit as suggested by Tabachnick and Fidell (2007), analysis showed a Kaiser's measure of sampling adequacy of .812. The original two constructs were confirmed through the factor analysis. From the original eight survey items, four items aligned to each construct.

Specifically, four items aligned to represent a factored item named *emotion focused social support* (eigenvalue = 3.30, variance explained = 41.22%). Table 3.2 reports the factor structure and loadings.

Table 3.2

Factor Analysis for the Emotion Focused Social Support Construct

Item	Factor Loadings
Emotion Focused Social Support (α = .827)	
I talk to someone about how I feel	.838
I try to get emotional support from friends or relatives	.801
I get sympathy and understanding from someone	.790
I discuss my feelings with someone	.753

Four items aligned to represent a factored item named *problem focused social support* (eigenvalue = 1.47, variance explained = 18.31%). Table 3.3 reports the factor structure and loadings.

Table 3.3

Factor Analysis for the Problem Focused Social Support Construct

Item	Factor Loadings
Problem Focused Social Support (α = .689)	
I talk to someone to find out more about the situation	.725
I try to get advice from someone about what to do	.712
I ask people who have had similar experiences what they did	.711
I talk to someone who could do something concrete about the problem	.683

Non-job-related and job-related activities. Participants were asked to self-report the number of hours each week that they spend in non-job related activities. Examples included activities such as hobbies, exercise, and family functions. To quantify the heavy workload attributed to the superintendency (Chan et al., 2001), participants were asked to report the number of hours each week that they engage in work-related activities that extend beyond a traditional 40 hour work week. In both cases, responses were recoded into the following ranges: below 10 hours, 10-19 hours, 20-29 hours, 30-39 hours, and 40 or more hours.

Environment variables. Independent variables characterized as external or related to the environment within the context of P-E fit included school size based upon student enrollment, socioeconomic status of the school population, regional classification of the district, and financial health of the district.

School size. Participants were asked to report the total student enrollment recorded during the current academic year. A distinction was made for participating superintendents between actual enrollment and certified enrollment due to variances in the counting and reporting mechanisms in each state. For example, certified enrollment is reported annually by school districts in Iowa as a means of generating a count for budgetary purposes in the coming

budget year. This count includes all students living with the boundaries of the physical school district, regardless of where they are educated. There is a distinct relationship between this student count and the tax base used to initiate a district tax asking. Often different from this certified enrollment number, and the desired answer to this survey question, was the actual number of students being educated by the school district. From this response, known as *actual enrollment*, answers were categorized for analysis purposes. Reponses were recoded into the following ranges: under 300, 300-599, 600-999, 1,000-2,499, 2,500-7,499, and 7,500 or more.

Socioeconomic status. According to the National School Lunch Program, children from families with incomes at or below 130 percent of the poverty level are eligible for free lunch, and children from families with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced price lunch (United States Department of Agriculture, n.d.). The number of students qualifying for free or reduced prices lunches is a means of quantifying the socioeconomic status of the student population. Participants in this study were asked to report the socioeconomic status of their respective district by reporting the number of students qualifying for free or reduced price lunches as a percentage of the entire student enrollment.

Regional classification. Regional classification is distinctly different from the size, or enrollment, of a district (Lamkin, 2006). Many small school districts exist in suburban and urban settings, and many large districts exist by encompassing large rural areas. In the present survey, participants were asked to identify the geographic area they were presently serving as urban, suburban, or rural. Classification in these terms was reflective of the type of community each district was situated rather than reflective of population or population density. Urban was defined as being located in a city or metropolitan area. Suburban was defined as being located in a residential area on the outskirts of a city or metropolitan area. And rural was defined as any

geographic area located outside of a city or suburb. Responses were recoded as a dichotomous variable, with 1 representing a rural district and 0 representing a non-rural district, which included both urban and suburban.

***Impact of available funding*.** The impact of available funding has been cited as the highest, or nearly highest, ranking concern for school superintendents (Farkas et al, 2003; Glass & Franceschini, 2007; Trevino et al., 2008). While the structures of school finance and individual school budgets vary from state to state, the availability of resources is universally bound by the cost of mandated programs and revenue generated by mandated formulas. Participants in this study were asked to report their perception of the impact of available resources upon their district budget based on a 5 point Likert-type scale with 1 = "Not much of a problem" and 5 = "A critical problem that results in minimal financial growth."

Dependent Variables

The dependent variables were five stress-related constructs developed through the process of factor analysis as described above. From the original 35 items of the Administrative Stress Index (ASI), 29 items aligned to seven constructs. Through interpretation of the aligned items, it was determined that only five factors could be considered useful for further analysis.

Again principal components analysis with varimax rotation was used in the factor analysis, and again a conservative approach of only including items that loaded at the .44 level or greater for each factor was employed. Kaiser's measure of sampling adequacy (KMO), reflecting whether the correlations under analysis are sizeable enough for use in the factor analysis, was evaluated. Using a value of at least .6 to evaluate the goodness of fit as suggested by Tabachnick and Fidell (2007), analysis showed a Kaiser's measure of sampling adequacy of .921.

Board-relations stress. Each item within the ASI was measured on a 5 point Likert-type scale with 1 = "Rarely or never bothers me" and 5 = "Frequently bothers me." Through the

factor analysis, six of the 35 items converged into a construct that pertained to the administrator's interactions with those they perceived they answered to in their job performance, particularly the school boards by whom they were employed. Five of the six items matched the construct 'role-based stress' as identified by Koch et al. (1982). However, with two additional items from the role-based stress construct not loading in this new factor analysis, and with the addition of one other item in the new construct, reconsideration of shared meaning was warranted. Each of the six items related to the superintendent's role in relationship to the school board. Therefore the new construct was titled board-relations stress (eigenvalue = 9.48, variance explained = 27.09%). Table 3.4 reports the factor structure and loadings.

Table 3.4

Factor Analysis for the Board-Relations Stress Construct

Item	Factor Loadings
Board-Relations Stress (α = .889)	
Trying to resolve differences with board members	.880
Trying to resolve differences between/among board members	.879
Thinking that I will not be able to satisfy the conflicting demands of board members	.838
Trying to influence board actions and decisions that affect me	.711
Not knowing what board members think of me, or how they evaluate my performance	.688
Feeling that I have too little authority to carry out responsibilities assigned to me	.567

Task-based stress. Five items from the ASI inventory loaded on a construct related to stress arising from performance of day-to-day administrative tasks. This factor included the coordination and communication of activities that often consume an administrator's time. The items converging for this factor tended to be activity based rather than social or interpersonal, with higher scores indicating more task-based stress (Koch et al., 1982). The five items were all present in the 'task-based stress' construct found by Koch et al., and while five other inventory

items from that analysis did not load on the current factor analysis, the title given by Koch et al. was deemed appropriate. The five survey items that loaded into the second factored variable were named *task-based stress* (eigenvalue = 3.12, variance explained = 8.91%). Table 3.5 reports the factor structure and loadings.

Table 3.5

Factor Analysis for the Task-Based Stress Construct

Item	Factor Loadings
Task-Based Stress (α = .725)	
Having my work frequently interrupted by staff members who want to talk	.707
Being interrupted frequently by telephone calls	.691
Supervising and coordinating the tasks of many people	.675
Feeling that meetings take up too much time	.462
Writing memos, letters, and other communications	.454

Expectation-based stress. Six items from the ASI inventory related to stress arising from expectations placed upon superintendents. And from this new construct, no relationship could be made between the factors from the Koch et al. (1982) factor analysis. This new construct included real or perceived demands on a superintendent's time and the pressures that ensue from such demands. The six items that loaded together represented a factored item that was given the name *expectations-based stress* (eigenvalue = 1.606, variance explained = 4.59%). Table 3.6 reports the factor structure and loadings.

Table 3.6

Factor Analysis for the Expectations-Based Stress Construct

Item	Factor Loadings
Expectation-Based Stress (α = .783)	
Imposing excessively high expectations on myself	.642
Feeling I have to participate in school activities outside of the normal working hours at the expense of my personal time	.642
Attempting to meet social expectations (housing, clubs, friends, etc.)	.628
Feeling pressure for better job performance	.549
Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day	.478
Trying to gain public approval and/or financial support for school programs	.470

Resource-management stress. Resource-management stress arises from activities relating the school to the external environment. ASI inventory items that loaded together around this construct included such things as collective bargaining, regulations, and budgeting. While related to a five-item construct from the Koch et al. (1982) factor analysis titled boundary-spanning stress, the three survey items loaded into this factored variable were more narrowly focused and therefore titled *resource management stress* (eigenvalue = 1.429, variance explained = 4.08%). Table 3.7 reports the factor structure and loadings.

Table 3.7

Factor Analysis for the Resource-Management Stress Construct

Item	Factor Loadings
Resource-Management Stress (α = .670)	
Being involved in the collective bargaining process	.759
Administering the negotiated contract (grievances, interpretation, etc.)	.700
Preparing and allocating budget resources	.565

Self-efficacy stress. Inherently related to the internally imposed pressures people place on themselves, self-efficacy stress was identified as a fifth construct from the ASI inventory. Including items that were related to feelings of job inadequacy, self-doubt, and insecurity, the four survey items that loaded into the fifth factored variable were *self-efficacy stress* (eigenvalue = 1.310, variance explained = 3.74%). Table 3.8 reports the factor structure and loadings.

Table 3.8

Factor Analysis for the Self-Efficacy Stress Construct

Item	Factor Loadings
Self-Efficacy Stress (α = .669)	
Feeling that I am not fully qualified for my job	.668
Knowing I can't get information needed to carry out my job properly	.598
Being unclear on just what the scope and responsibilities of my job are	.560
Feeling that the progress on my job is not what it should or could be	.463

Data Analysis Procedures

The data for this study were analyzed on several levels using both descriptive and inferential analyses to address the identified research questions.

Descriptive Statistical Analyses

The data were analyzed using SPSS v.20 software that allowed identification of means, standard deviations, and frequencies for each of the independent and dependent variables identified in Table 3.1 Descriptive statistics were used to answer research question 1 – What are the background characteristics (Person) of Midwest superintendents? and research question 2 – What are the external variables (Environment) reported by Midwest superintendents?

Inferential Statistical Analyses

Correlations, independent samples t-tests, one-way analysis of variance (ANOVA), and hierarchical (sequential) regression analysis were conducted on the data to answer research questions three through six.

Correlations. Pearson product-moment correlations, which measure the effect size of a variable (Green & Salkind, 2011), were conducted on the independent variables to determine the extent to which the independent and dependent variables were linearly related (Tabachnick & Fidell, 2007). Because two assumptions are necessary to conduct correlation analysis – "Assumption 1: The Variables Are Bivariately Normally Distributed and Assumption 2: The Cases Represent a Random Sample from the Population and the Scores on Variables for One Case Are Independent of Scores on These Variables for Other Cases" (Green & Salkind, p. 258), the data were screened to ensure the assumptions were met.

A correlation matrix was developed for all of the variables included in this study. When several correlations are computed, as is the case in the present study, Green and Salkind (2011) suggested using a Bonferonni approach to control for a Type 1 error, or wrongly concluding that variables are related when they are not (Vogt & Johnson, 2011). The Bonferonni approach requires dividing the generally accepted significance level of .05 by the number of computed correlations.

Independent samples t-test. Five independent samples t-tests were conducted to answer research question 4 – Is there a statistically significant difference based upon gender and stress factors associated with the superintendency? Specifically, the five independent samples t-tests answered:

a) Is there a statistically significant difference based upon gender and board-relations stress?

b) Is there a statistically significant difference based upon gender and task-based stress?

c) Is there a statistically significant difference based upon gender and expectation-based stress?

d) Is there a statistically significant difference based upon gender and resource-management stress?

e) Is there a statistically significant difference based upon gender and self-efficacy stress?

One-way analysis of variance (ANOVA). To address research question 5 - Is there a statistically significant difference based on a superintendent's job assignment and stress factors associated with the superintendency? – five one-way ANOVA tests were required. An overall ANOVA test is conducted to assess whether means on a dependent variable are significantly different among groups (Green & Salkind, 2011). In the present study, each one-way ANOVA, one for each stress construct (board-relations stress, task-based stress, expectation-based stress, resource-management stress, self-efficacy stress), was conducted to evaluate the relationship between the structure of the position held by the superintendent and the individual stress construct. The independent variable, superintendent role, included four levels: superintendent of one district, superintendent of more than one district, superintendent and elementary principal, and superintendent and secondary principal.

Hierarchical regression. Multiple regression analysis with a sequential hierarchical approach was used to answer research question 6 – To what extent do the person variables (leadership/management style, social support, time in non-job-related activities, time in work-related activities) and the environment variables (district size, SES, regional classification, impact of available funding) predict stress factors associated with the superintendency? Prior to

running the regression analysis, an exploratory factor analysis was conducted to identify the constructs as described in the prior section.

Regression analyses are used to predict a score on one variable from the score on the other (Tabachnick & Fidell, 2007). Regression is based on a linear relationship, and in simple regression, the model equation can be expressed as:

$$Y=bX+a$$

where Y = the predicted value of the dependent (outcome) variable, b = the unstandardized regression coefficient, X = the independent (predictor) variable, and a = the intercept. In multiple regression, there is more than one independent (predictor) variable and thus the formula is adjusted to account for additional predictor variables such as:

$$Y=bX_1+bX_2+\ldots a$$

where X_1 is the value of the first predictor variable, and X_2 is the value of the second predictor variable. Additional predictor variables can be added to the equation so long as minimum sample requirements are accounted for. Tabachnick and Fidell (2007) suggested a minimum sample size based on the following equation:

$$8m+50 = N$$

where m = the number of independent (predictor variables). In this study, the maximum number of predictor variables used in the regression model was ***17***. Inserting 17 to replace m in the equation above and conducting the calculation produces a minimum sample size of N = 186. In this study, the maximum potential sample size was N = 992, which was well beyond the minimum sample guidelines of Tabachnick and Fidell (2007).

A sequential hierarchical approach was used for the regression analysis. In this approach, independent variables enter the equation in an order determined by the researcher (Tabachnick &

Fidell, 2007). Using the P-E fit model to account for the organization of independent variables into four blocks representing either internal (person) or external (environment) variables, independent variables were entered in four blocks for each of five different regression models (board-relations stress, task-based stress, expectation-based stress, resource-management stress, self-efficacy stress). The first block entered contained variables identified as internal (person) – gender, age, highest level of education, longevity as a superintendent, and longevity as a superintendent specific to their current position. The second block entered contained variables identified as external (environment) – district size by enrollment, percentage of population with low SES, regional classification, and the impact of available funding.

Theoretically, the first two blocks were entered into the regression analyses first and second to determine the extent to which these internal and external variables alone predicted stress (board-relations stress, task-based stress, expectation-based stress, resource-management stress, self-efficacy stress). These specific internal and external variables, chosen for blocks one and two, are those considered difficult to impact by the participants and, in essence, those identified as consumers of the results of this study. These variables were entered in the first two blocks to account for their predictive value first in determining how much variance for which they could account.

Superintendents have far more control over changes to the internal variables associated with the third and fourth blocks. The third block entered contained variables identified as internal (person) – time in non-job-related activities, time in job-related activities beyond the traditional 40 hour work week, problem-focused social supports, and emotion-focused social supports. The fourth block, again internal (person) and highly manipulated by superintendents, included four specific characteristics of leadership/management style – collaborative/collegial,

extroverted/gregarious, innovative/change orientated, and relationship orientated. Ultimately it is believed that superintendents have the ability to modify their leadership style, the supports they enact, and the use of their time.

Application of the regression model

$$Y=bX_1+bX_2+\ldots a$$

and the five stress constructs (board-relations stress, task-based stress, expectation-based stress, resource-management stress, self-efficacy stress) identified by factor analysis, generated the following regression models and sequential hierarchical regression analyses:

a) board-relations stress = internal variables (gender + age + highest level of education + longevity as a superintendent + longevity as a superintendent specific to their current position) + external variables (district size by enrollment + percentage of population with low SES + regional classification + impact of available funding) + internal variables (time in non-job-related activities + time in job-related activities beyond the traditional 40 hour work week + problem-focused social supports + emotion-focused social supports) + internal variables (leadership/management style – collaborative/congenial + leadership/management style – extroverted/gregarious + leadership/management style – innovative/change orientated + leadership/management style – relationship orientated)
b) task-based stress = internal variables (gender + age + highest level of education + longevity as a superintendent + longevity as a superintendent specific to their current position) + external variables (district size by enrollment + percentage of population with low SES + regional classification + impact of available funding) + internal variables (time in non-job-related activities + time in job-related activities beyond the

traditional 40 hour work week + problem-focused social supports + emotion-focused social supports) + internal variables (leadership/management style – collaborative/congenial + leadership/management style – extroverted/gregarious + leadership/management style – innovative/change orientated + leadership/management style – relationship orientated)

c) expectation-based stress = internal variables (gender + age + highest level of education + longevity as a superintendent + longevity as a superintendent specific to their current position) + external variables (district size by enrollment + percentage of population with low SES + regional classification + impact of available funding) + internal variables (time in non-job-related activities + time in job-related activities beyond the traditional 40 hour work week + problem-focused social supports + emotion-focused social supports) + internal variables (leadership/management style – collaborative/congenial + leadership/management style – extroverted/gregarious + leadership/management style – innovative/change orientated + leadership/management style – relationship orientated)

d) resource-management stress = internal variables (gender + age + highest level of education + longevity as a superintendent + longevity as a superintendent specific to their current position) + external variables (district size by enrollment + percentage of population with low SES + regional classification + impact of available funding) + internal variables (time in non-job-related activities + time in job-related activities beyond the traditional 40 hour work week + problem-focused social supports + emotion-focused social supports) + internal variables (leadership/management style – collaborative/congenial + leadership/management style – extroverted/gregarious +

leadership/management style – innovative/change orientated + leadership/management style – relationship orientated)

e) self-efficacy stress = internal variables (gender + age + highest level of education + longevity as a superintendent + longevity as a superintendent specific to their current position) + external variables (district size by enrollment + percentage of population with low SES + regional classification + impact of available funding) + internal variables (time in non-job-related activities + time in job-related activities beyond the traditional 40 hour work week + problem-focused social supports + emotion-focused social supports) + internal variables (leadership/management style – collaborative/congenial + leadership/management style – extroverted/gregarious + leadership/management style – innovative/change orientated + leadership/management style – relationship orientated)

Figure 3.1 provides a visual depiction of the regression models respective to each dependent variable.

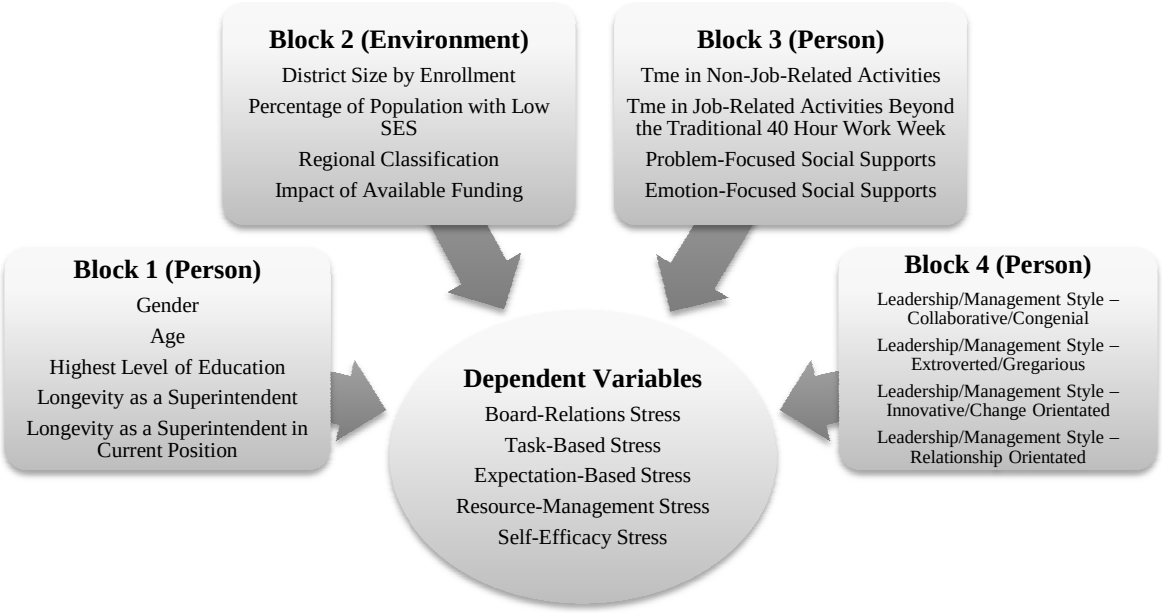

Figure 3.1 Visual Model of Sequential Hierarchical Regression Analyses

Summary of Research Questions and Analyses

The data for this study were analyzed on several levels using both descriptive and inferential analyses to address the identified research questions, as summarized in Table 3.9 Descriptive statistics were used to answer question 1 – What are the background characteristics (Person) of Midwest superintendents? and question 2 – What are the external variables (Environment) reported by Midwest superintendents? Correlations, independent samples *t*-tests, one-way analysis of variance, and hierarchical (sequential) regression analyses were conducted on the data to answer questions three through six.

Table 3.9

Research Questions, Method of Analysis, and Variables

Research question	Method of analysis	Independent variables	Dependent variables
1. What are the background characteristics (Person) of Midwest superintendents?	Descriptive	• Age • Gender • Highest level of education • Years as superintendent • Role • State in which district is located • Leadership/management style • Availability of social supports • Hours per week spent doing non-job-related activities (e.g. hobbies, exercise, family functions, etc.) • Hours per week spent doing work-related activities above a traditional 40 hour work week	
2. What are the external variables (Environment) reported by Midwest superintendents?	Descriptive	• District size • District SES • District classification of rural, suburban, urban • Impact of available funding	

Table 3.9 (Continued)

Research Questions, Method of Analysis, and Variables

Research question	Method of analysis	Independent variables	Dependent variables
3. Is there a statistically significant relationship between a superintendent's age, level of education, and longevity and stress factors associated with the superintendency?	Correlations	• Age • Gender • Highest level of education • Years as superintendent • Leadership/management style • Availability of social supports • Hours per week spent doing non-job-related activities (e.g. hobbies, exercise, family functions, etc.) • Hours per week spent doing work-related activities above a traditional 40 hour work week	Administrative Stress • Board-Relations Stress • Task-Based Stress • Expectation-Based Stress • Resource-Management Stress • Self-Efficacy Stress
4. Is there a statistically significant difference based on gender and stress factors associated with the superintendency?	Independent Samples *t*-test	Gender	Administrative Stress • Board-Relations Stress • Task-Based Stress • Expectation-Based Stress • Resource-Management Stress • Self-Efficacy Stress
5. Is there a statistically significant difference associated with a superintendent's job assignment and stress factors associated with the superintendency?	One-way ANOVA	Role	Administrative Stress • Board-Relations Stress • Task-Based Stress • Expectation-Based Stress • Resource-Management Stress • Self-Efficacy

			Stress

Table 3.2 (Continued)

Research Questions, Method of Analysis, and Variables

Research question	Method of analysis	Independent variables	Dependent variables
6. To what extent do the person variables (leadership/management style, social support, time in non-job-related activities, time in work-related activities) and the environment variables (district size, SES, regional classification, impact of available funding) predict stress factors associated with the superintendency?	Hierarchical (sequential) regression	Person Variables - Demographic (Block 1) • Gender • Age • Highest Level of Education • Longevity as a Superintendent • Longevity as a Superintendent Specific to Current Job Environment Variables (Block 2) • District Size by Enrollment • Percentage of Population with Low SES • Regional Classification • Impact of Available Funding Person Variables – Time and Social Supports (Block 3) • Time in Non-Job-Related Activities • Time in Job-Related Activities Beyond 40 Hour Week • Problem-Focused Social Supports • Emotion-Focused Social Supports Person Variables – Leadership/Management Style (Block 4) • Collaborative/Collegial • Extroverted/Gregarious • Innovative/Change Orientated • Relationship Orientated	Administrative Stress • Board-Relations Stress • Task-Based Stress • Expectation-Based Stress • Resource-Management Stress • Self-Efficacy Stress

Delimitations

This study was delimited to superintendents from the Midwest. Although the four part survey could have been used to gather information regarding other administrative positions such as principals, it was not relevant to this particular study. While the current study was specific to superintendents in the Midwest, the four part survey also could have been used to include superintendents in other states. In addition, the superintendents who were asked to participate in the study were limited to those whose emails were available through their state Department of Education or district website.

Limitations

The limitations of this study consisted of the cross sectional design of the study, the time limitations of the study, and the use of technology for survey delivery. Geographically, the participants in this study were limited to the Midwest and consisted of a representative sample of the current superintendents based upon response rate. While Midwest superintendents and their job-related stresses are assumed to be typical of a national pool, the results of this study cannot be generalized to other states because the participant sample is not representative of those populations.

A second limitation to the present study involved the timing of the survey. Stress levels can vary significantly from day to day and even throughout the course of any given day. The level of perceived stress affecting each participant at the time of survey completion may have impacted the responses given. Only the participant could determine if the responses given were indicative of the moment the survey was taken or of the general nature of their position as a superintendent.

The use of technology to administer a web-based survey can be viewed as a strength and a weakness. While the use of online surveys expedited the data collection process, it may also

have hampered response rates depending on the comfort level each participant had with technology and sharing information online. It also can only be assumed that the person submitting the online response was truly the superintendent for which the invitation to participate was intended.

CHAPTER 4

RESULTS

The purpose of this study was to identify relationships between personal and environmental variables and stress management of superintendents in twelve Midwest states using the theoretical framework of person-environment fit (P-E fit). P-E fit has been widely studied as a means for conceptualizing organizational behavior, organizational psychology, and human resources, and is broadly defined as the compatibility between an individual and work environment that occurs when their characteristics are well matched (Kristof-Brown et al., 2005).

This chapter provides results of the data analyses and addresses the six previously identified research questions. The chapter is divided into seven sections. The first section describes the procedures used to screen the data and ensure that assumptions of data normality were met in order to conduct data analyses. The second section reports results for the descriptive statistics conducted on all demographic variables and all independent and dependent variables. The third section reports correlations between all of the independent and dependent variables, which is required reporting for multiple regression analysis. The fourth section describes the results for the independent samples *t*-tests conducted to answer research question four. The fifth section describes the results for the one-way analysis of variances conducted to answer research question five. The sixth section addresses the sequential (hierarchical) regression analyses conducted to answer research question six. The seventh, and final, section provides summary answers to each of the research questions.

Data Screening and Assumptions of Normality

Prior to conducting analyses related to descriptive and inferential statistics, the data were screened for outliers and missing values. Cases with missing values were deleted from the analysis. Results of data screening revealed that of the 1,043 original cases, 51 necessitated

deletion, leaving 992 remaining cases. Further screening was then conducted to assess, where necessary, whether the variables met assumptions of normality. Screening variables to ensure that data are distributed normally is a precursor to conducting most inferential statistics, including independent samples *t*-tests, one-way analyses of variance (ANOVA), and multiple regression as used in the present study (Tabachnick & Fidell, 2007).

Normality of variables is assessed by either statistical or graphical methods. Two components of normality are skewness and kurtosis. Skewness refers to whether data are disbursed symmetrically, with the mean lying centrally within the distribution, and kurtosis is a representation of whether data fall within a bell-shaped distribution (Vogt & Johnson, 2011). Put another way, skewness has to do with the symmetry of the distribution, while kurtosis has to do with the peakedness of a distribution (Tabachnick & Fidell, 2007). When a distribution is normal, the values of skewness and kurtosis are zero.

Kline (2011) suggested a method for assessing data normality that involves a review of the skew and kurtosis index scores for each variable used in the regression analysis. Kline explained that absolute values for skew values greater than 3.0 and kurtosis values from 8.0 to 20.0 should be described as extreme. Results of the data screening for the independent and dependent variables present in the regression model are reported in Table 4.1. A review of the skew and kurtosis index scores revealed that none of the independent and dependent variables in this study exhibit extreme non-normal data, thus fulfilling the assumption of data normality for independent samples *t*-tests, one-way ANOVA, and multiple regression.

Table 4.1

Assessment of Normality for Variables in the Model (n = 992)

Variables	Skew	SE of Skew	Kurtosis	SE of Kurtosis
Age	-.124	.078	-.502	.155
Gender	1.445	.078	.088	.155
Highest Level of Education	.030	.078	-1.496	.155
Total Years as Superintendent	1.467	.078	2.323	.155
District Years as Superintendent	1.840	.078	5.220	.155
Role	2.764	.078	6.576	.155
State	.163	.078	-1.125	.155
Enrollment	-.076	.078	-.965	.155
Socio-Economic Status	.243	.078	-.016	.156
Rural, Non-Rural	-1.201	.078	-.559	.155
Impact of Available Funding	-.957	.078	.042	.156
Non-Job Related Time	.804	.079	.179	.158
Work-Related Time Beyond 40 Hours	.658	.078	.241	.156
Problem-Focused Social Support	-.144	.078	-.437	.156
Emotion-Focused Social Support	.651	.078	-.060	.156
Collaborative/Collegial	-.841	.078	-1.296	.156
Extroverted/Gregarious	-.089	.078	-1.996	.156
Innovative/Change Oriented	-.550	.078	-1.702	.156
Relationship Orientated	-.281	.078	-1.925	.156
Board-Relations Stress*	.648	.079	-.051	.159
Task-Based Stress*	.166	.079	-.320	.158
Expectation-Based Stress*	-.037	.079	-.401	.159
Resource-Management Stress*	.278	.079	-.585	.157
Self-Efficacy Stress*	.475	.079	-.154	.157

*Dependent variables

Frequencies and Descriptive Statistics

Descriptive statistics were run for each of the variables in the study, as well as demographic information related to the participants. Table 4.2 reports the results of descriptive analyses for demographic data as well as each of the independent and dependent variables used in the study. Statistics include the range (minimum and maximum values), mean, and standard deviation for each variable.

Table 4.2

Descriptive Statistics for Demographic Data, Independent, and Dependent Variables (n = 992)

Variables	Min	Max	*Mean*	*SD*
Age	29	74	52	8.14
Gender (1 = Male)	1	2	1.21	.72
Highest Level of Education[a]	1	4	2.6	1.16
Total Years as Superintendent	.5	43	8.85	7.39
District Years as Superintendent	.5	37	5.50	4.54
Role[b]	1	4	1.26	.715
Enrollment[c]	1	6	3.27	1.40
Socio-Economic Status	0	100	42.65	18.57
District Type (1 = Rural)	0	1	.76	.43
Impact of Available Funding[d]	1	5	3.95	1.16
Non-Job Related Time	1	5	2.34	1.07
Work-Related Time Beyond 40 Hours	1	5	2.80	.96
Collaborative/Collegial (1 = Yes)	0	1	.69	.46
Extroverted/Gregarious (1 = Yes)	0	1	.52	.50
Innovative/Change Oriented (1 = Yes)	0	1	.63	.48
Relationship Oriented (1 = Yes)	0	1	.57	.50
Problem-Focused Social Support	4	16	11.37	2.30
Emotion-Focused Social Support	4	16	7.61	2.71

Table 4.2 (Continued)

Descriptive Statistics for Demographic Data, Independent, and Dependent Variables (n = 992)

Variables	Min	Max	*Mean*	*SD*
Board-Relations Stress	6	30	13.95	5.47
Task-Based Stress	5	23	12.27	3.50
Expectation-Based Stress	6	29	17.38	4.78
Resource-Management Stress	3	15	7.57	2.63
Self-Efficacy Stress	4	18	8.25	2.75

[a]Scale: 1 = Masters, 2 = Ed.S., 3 = Ed.D. or Ph.D., in progress, 4 = Ed.D. or Ph.D.
[b]Scale: 1 = Superintendent – one district, 2 = Superintendent – more than one district, 3 = Superintendent & elementary principal, 4 = Superintendent & secondary principal
[c]Scale: 1 = <300, 2 = 300-599, 3 = 600-999, 4 = 1,00-2,499, 5 = 2,500-7,499, 6 = 7,500>
[d]Scale: 1 = Not much of a problem, 3 = A problem but financial growth can occur with current resources, 5 = A critical problem that results in minimal financial growth

Correlations

This study examined the relationships between variables using Pearson product-moment correlation coefficients. Pearson correlations, *r*, show the degree of linear relationship between two variables (Vogt & Johnson, 2011). The strength of the relationship between the variables is determined by the correlation coefficient. When computing correlations, the value of *r* ranges between -1.00 and +1.00, where values close to .00 represent no linear relationship or predictability between variables. An *r* value of +1.00 or -1.00 indicates perfect predictability of one score when the other in known (Tabachnick & Fidell, 2007). Tabachnick and Fidell also explained variables that are too highly correlated, .90 or higher, are considered multicollinear or singular, and contain redundant information. To address measurement of effect size, or strength of the relationship between two variables, Green and Salkind (2011) noted that, “for the behavioral sciences, correlation coefficients of .10, .30, and .50, irrespective of sign, are by convention, interpreted as small, medium, and large coefficients, respectively” (p. 259).

According to Green and Salkind (2011), there are two assumptions that the data must meet prior to conducting correlations. These assumptions are:

1. The variables are bivariately normally distributed.
2. The cases represent a random sample from the population, and the scores on the variables for one case are independent of scores on these variables for other cases (Green & Salkind, p. 176).

As described in the first section of this chapter, data screening at the onset of data analysis ensured that these assumptions were met.

Pearson correlations were computed among each of the independent and dependent variables, as represented in Table 4.3. Data were examined for correlations of .90 or greater to determine that no instances of multicollinearity existed. When several correlations are computed, as is the case in the present study, Green and Salkind (2011) suggested using a Bonferonni approach to control for a Type 1 error, or wrongly concluding that variables are related when they are not (Vogt & Johnson, 2011). The Bonferonni approach requires dividing the generally accepted significance level of .05 by the number of computed correlations. A correlation is not determined significant unless its *p* value is less than the corrected significance level. Using the Bonferonni approach, .05 was divided by 120 to determine the new significance level at .0004. Using .0004 as the revised and conservative significance level, 33 of the 120 correlations were deemed significant. These 33 significant correlations are noted with an asterisk (*) in Table 4.3. This statistical significance represents the existence of a relationship, but cannot be assumed to be causal in nature.

Using the Green and Salkind (2011) interpretation of correlation coefficient size, of the 33 statistically significant correlations, four were considered to have a large (high) relationship,

10 were considered to have a medium (moderate) relationship, and 19 were considered to have a small (low) relationship. None of the statistically significant correlations had a correlation coefficient less than .10. The description that follows describes each statistically significant correlation of at least .10, based on the strength of the relationship or coefficient size. For each pair of variables with a coefficient of at least .10, positive results reflect that as one variable increases in size, the other variable also increases, while a negative correlation reflects that as one variable increases in size the other variable decreases (Green & Salkind, 2011).

Table 4.3

Correlation Matrix – All Independent and Dependent Variables (n = 992)

		1	2	3	4	5	6	7	8
1	Age	--							
2	Highest Level of Education	.05	--						
3	Total Years as Superintendent	.55*	.11	--					
4	District Years as Superintendent	.35*	.04	.59*	--				
5	Enrollment	.07	.32*	.05	-.01	--			
6	Socio-Economic Status	.02	-.13*	-.04	-.02	-.22*	--		
7	Impact of Available Funding	.04	-.02	-.02	-.01	.09	.12*	--	
8	Non-Job Related Time	-.01	-.01	.00	.01	-.03	-.01	-.04	--
9	Work-Related Time + 40 Hours	-.03	.01	-.08	-.03	.06	-.04	.08	.02
10	Problem-Focused Social Supports	-.05	-.01	-.12*	-.04	.03	-.05	.10	.04
11	Emotion-Focused Social Supports	.01	.02	-.10	-.06	.02	.04	.01	.01
12	Board-Relations Stress	-.09	.03	-.09	-.15*	.04	.02	.06	-.04
13	Task-Based Stress	-.12*	-.13*	-.06	-.07	-.12*	.08	.01	-.08
14	Expectation-Based Stress	-.18*	-.11	-.16*	-.11	-.04	.02	.18*	-.13*
15	Resource-Management Stress	.01	-.08	-.03	.01	.06	-.01	.26*	-.03
16	Self-Efficacy Stress	-.11	-.16*	-.20*	-.17*	-.12*	.06	.09*	-.09

*Note: * $p < .0004$* Bonferonni adjustment for multiple correlations to minimize chances of a Type 1 error.

Table 4.3 (Continued)

Correlation Matrix – All Independent and Dependent Variables (n = 992)

		9	10	11	12	13	14	15	16
1	Age								
2	Highest Level of Education								
3	Total Years as Superintendent								
4	District Years as Superintendent								
5	Enrollment								
6	Socio-Economic Status								
7	Impact of Available Funding								
8	Non-Job Related Time								
9	Work-Related Time + 40 Hours	--							
10	Problem-Focused Social Supports	.06	--						
11	Emotion-Focused Social Supports	.04	.37*	--					
12	Board-Relations Stress	.09	.04	.09	--				
13	Task-Based Stress	.04	.02	.03	.30*	--			
14	Expectation-Based Stress	.11	.08	.11	.43*	.58*	--		
15	Resource-Management Stress	.04	.15*	.08	.20*	.38*	.49*	--	
16	Self-Efficacy Stress	.08	.08	.06	.44*	.45*	.57*	.42*	--

Note: * $p < .0004$ Bonferonni adjustment for multiple correlations to minimize chances of a Type 1 error.

High Correlations

Four correlations were considered large based on Green and Salkind's (2011) recommendations for interpreting the size of the correlation coefficient. Analysis indicated a high positive correlation between superintendent's age and overall length of their career as a superintendent ($r = .55$, $p < .0004$), representing the logical relationship between age and career length; that is, the older superintendents had served as superintendents longer. A similar high

correlation existed between overall longevity and longevity in the superintendent's current position ($r = .59$, $p < .0004$).

A high positive correlation existed between task-based stress and expectation-based stress ($r = .58$, $p < .0004$), indicating that superintendents who reported higher frequencies of being bothered by task-based stressors were more likely to also report higher frequencies of being bothered by expectation-based stressors. A similar high correlation was found between expectation-based stress and self-efficacy stress ($r = .57$, $p < .0004$).

Moderate Correlations

Ten statistically significant correlations were considered to have a moderate effect size. Superintendent age and the number of years they had served in their present district were positively correlated ($r = .35$, $p < .0004$), indicating the longer a superintendent had served in a district, the higher their age. And superintendents with more advanced education were positively correlated with serving districts with higher student enrollment ($r = .32$, $p < .0004$).

A moderate correlation existed between emotion focused social supports and problem focused social supports ($r = .37$, $p < .0004$). A higher frequency in the use of one type of social supports was positively related to the likelihood of more frequent use of the other.

Several moderate positive correlations existed between categories of superintendent stress. A higher reported frequency of being bothered by one type of stress also indicated a higher frequency of being bothered by the other in the following pairs: task-based stress and board-relations stress ($r = .30$, $p < .0004$), expectation-based stress and board-relations stress ($r = .43$, $p < .0004$), resource-management stress and task-based stress ($r = .38$, $p < .0004$), resource-management stress and expectation-based stress ($r = .49$, $p < .0004$), self-efficacy stress and board-relations stress ($r = .44$, $p < .0004$), self-efficacy stress and task-based stress ($r = .45$, $p < .0004$), and self-efficacy stress and resource-management stress ($r = .42$, $p < .0004$).

Low Correlations

A total of 19 correlations were considered to be significant, but with low effect sizes, or strength of the relationship. In terms of district characteristics, a low negative correlation was found between the socioeconomic status of the student population and the level of education attained by the superintendent serving the district (r = -.13, p < .0004). The lower the percentage of students receiving free or reduced price lunches, the higher the level of education of the superintendent. Likewise, districts with lower percentages of students receiving free or reduced price lunches had higher overall enrollment (r = -.22, p < .0004). When reporting the impact of funding available for the operation a district, superintendents serving districts with higher percentages of students that qualify for free and reduced price lunch reported availability of funding, or lack there of, to be a more serious problem (r = .12, p < .0004).

One low correlation appeared in the analysis of social supports. A low negative correlation was found between total years served as a superintendent and the use of problem focused social supports (r = -.12, p < .0004), indicating that superintendents with more experience employed problem focused social supports less frequently.

Several low correlations were found to exist between the categories of superintendent stress. Board-relations stress was negatively correlated with the number of years a superintendent had served in their present district (r = -.15, p < .0004), indicating that the newer a superintendent was to their district, the more board-relations stress they reported experiencing. The negative correlation between task-based stress and age (r = -.12, p < .0004) indicated that the younger a superintendent was, the more task based stress they reported experiencing. This was also true for expectation-based stress (r = -.18, p < .0004). Superintendents with less education experienced a higher frequency of task-based stress (r = -.13, p < .0004) and self-

efficacy stress (r = -.16, p < .0004). And in terms of superintendent longevity, the fewer years one had been a superintendent, the higher the frequency of expectation-based stress (r = -.16, p < .0004) and self-efficacy stress (r = -.20, p < .0004). Self-efficacy stress was also more frequent for superintendents with less experience in their current assignment (r = -.17, p < .0004).

When district enrollment was lower (r = -.12, p < .0004), task-based stress was more frequent. Self-efficacy stress was also higher when district enrollment was lower (r = -.12, p < .0004). Two categories of stress, expectation-based (r = .18, p < .0004) and resource-management stress (r = .26, p < .0004), were higher when the superintendent rated lack of available funding as more of a problem. The independent variables related to time only appeared as statistically significant in one instance. The more time a superintendents reported spending in non-job related activities, the lower frequency of expectation-based stress (r = -.13, p < .0004).

Resource-management stress and the use of problem focused social supports showed a low positive correlation (r = .15, p < .0004), indicating that superintendents who employed problem focused social supports also reported higher frequencies of resource-management stress. And Superintendents experiencing higher frequencies of resource-management stress also indicated more frequency of board-relations stress (r = .20, p < .0004).

Independent Samples *t*-tests

Five independent samples *t*-tests were conducted to determine if there was a difference between male superintendents and female superintendents regarding their scores on the administrative stress variables – board-relations stress, task-based stress, expectation-based stress, resource-management stress, and self-efficacy stress. If results of the independent samples *t*-tests indicated a statistically significant difference between these two groups (males and females) then the groups were separated and multiple regression analyses then included the

gender variable. If results indicated there was no statistically significant difference between these two groups then gender was not included in the regression analyses. The five specific independent samples *t*-tests conducted were:

a) *Is there a difference between male superintendents and female superintendents in the frequency of board-relations stress?*
b) *Is there a difference between male superintendents and female superintendents in the frequency of task-based stress?*
c) *Is there a difference between male superintendents and female superintendents in the frequency of expectation-based stress?*
d) *Is there a difference between male superintendents and female superintendents in the frequency of resource-management stress?*
e) *Is there a difference between male superintendents and female superintendents in the frequency of self-efficacy stress?*

According to Green and Salkind (2011), there are three assumptions that the data must meet prior to conducting an independent samples *t*-test. These assumptions are:

1. The test variable is normally distributed in each of the two populations.
2. The variances of the normally distributed test variable for the populations are equal.
3. The cases represent a random sample from the population, and the scores on the test variable are independent of each other (Green & Salkind, p. 176).

As described in the first section of this chapter, data screening at the onset of data analysis ensured that assumptions 1 and 3 were met. Regarding assumption 2, Levene's test for equity of variances evaluates the assumption that the population variances for the two groups are equal (Green & Salkind, 2011). When Levene's test is significant, as was the case for board-relations

stress and self-efficacy stress, the assumption of equality-of-variance is violated. In these two instances, results are reported using results for equal variances not assumed.

Analysis of the five independent samples *t*-tests indicated that two of the five produced statistically significant results. The independent samples *t*-test conducted to determine if there was a difference between male and female superintendents in the frequency of reported board-relations stress, indicated significant differences, $t(269.78) = -2.387$, $p = .02$. Female superintendents ($M = 14.87$, $SD = 6.12$) reported higher frequency of board-relations stress than male superintendents ($M = 13.72$, $SD = 5.28$). The 95% confidence interval for the difference in means ranged from -2.09 to -.20. The eta square index indicated that .5% of the variance of board-relations stress was accounted for by whether a superintendent was male or female. According to Green and Salkind (2011) an eta square index below 1% would be considered small.

Also significant was the difference between frequency of expectation-based stress reported by male and female superintendents, $t(944) = -3.180$, $p = .002$. Female superintendents ($M = 18.34$, $SD = 4.89$) reported higher frequency of expectation-based stress than male superintendents ($M = 17.12$, $SD = 4.73$). The 95% confidence interval for the difference in means ranged from -1.96 to -.46. The eta square index indicated that .9% of the variance of expectation-based stress, a small effect, was accounted for by whether a superintendent was male or female.

Results of the remaining three independent samples *t*-test conducted to determine if there was a difference in stress between male and female superintendents were not significant. Specifically, there were no significant differences for task-based stress, $t(954) = -.079$, $p = .94$; resource-management stress, $t(959) = -1.476$, $p = .14$; or self-efficacy stress, $t(279.55) = -1.552$, $p = .12$. Table 4.4 provides a summary review of results for the independent samples *t*-tests.

Table 4.4

Independent Samples t-tests – Summary of Results (n = 992)

	Male Supt.		Female Supt.					Confidence Intervals	
	M	*SD*	*M*	*SD*	*t*	*df*	*p*	Lower	Upper
Board-Relations Stress	13.72	5.28	14.87	6.12	-2.39	270	.02	-2.09	-.20
Task-Based Stress	12.27	3.46	12.29	3.69	-.08	954	.94	-.58	.53
Expectation-Based Stress	17.12	4.73	18.34	4.89	-3.18	944	.00	-1.96	-.46
Resource-Management Stress	7.51	2.61	7.82	2.69	-1.48	959	.14	-.72	.10
Self-Efficacy Stress	8.18	2.68	8.54	3.03	-1.55	280	.12	-.83	.09

Note: Levene's test for equal variances was significant for Board-Relations Stress and Self-Efficacy Stress thus *t*-values and df were reported using unequal variances information.

One-Way ANOVA

In order to determine if a superintendent's job assignment had an impact on the frequency that superintendents experienced each different type of stress, five separate one-way analyses of variance (ANOVA) were performed using the dependent variables of board-relations stress, task-based stress, expectation-based stress, resource-management stress, and self-efficacy stress. Green and Salkind (2011) call for an overall ANOVA test when assessing whether means on a dependent variable are significantly different among groups. The variable of job assignment in the present study involved four groups – superintendent of one district, superintendent of more than one district, superintendent and elementary principal, and superintendent and secondary principal.

According to Green and Salkind (2011), there are three assumptions that the data must meet prior to conducting an ANOVA. These assumptions are:

1. The dependent variable is normally distributed for each of the populations as defined by the different levels of the factor.

2. The variances of the dependent variable are the same for all populations.
3. The cases represent random samples from the populations, and the scores on the test variable are independent of each other (Green & Salkind, p. 176).

As described in the first section of this chapter, data screening at the onset of data analysis ensured that assumptions 1 and 3 were met. Regarding assumption 2, Levene's test for equality of variances evaluates the assumption that the population variances for the two groups are equal (Green & Salkind, 2011). Levene's test was evaluated in each analysis to determine the appropriate pairwise comparison for controlling for a Type 1 error.

When computing a one-way ANOVA, an effect size index, η^2 or eta square, will range in value from 0 to 1. An η^2 value of 0 indicates that there are no differences in mean scores among groups, and a value of 1 indicates that there are differences in the mean scores among groups (Green & Salkind, 2011). To address measurement of effect size, Green and Salkind noted that, "what is small versus a large η^2 is dependent on the investigation. However, η^2 of .01, .06, and .14 are by convention, interpreted as small, medium, and large coefficients, respectively" (p. 185).

One of the five one-way ANOVA test was significant. The one-way analysis of variance that was conducted to evaluate the relationship between superintendents' roles, either superintendent of one district, superintendent of more than one district, superintendent and elementary principal, or superintendent and secondary principal, and the frequency of being bothered by experiencing task-based stress was found to be significant, $F(3, 953) = 5.921$, $p = .001$. The strength of the relationship between the superintendent's role and task-based stress, as assessed by η^2, was small, with superintendent's role accounting for 3.8% of the variance of the dependent variable.

Follow-up tests were conducted to evaluate pairwise differences among the means. Because Levene's test of equal variance was significant, equal variances were not assumed and the post hoc comparisons were conducted using Dunnett's *C* test. There was a significant difference in the means between superintendents serving in one district with no other job titles and those with a position that shared the role of superintendent and secondary principal, but no significant differences between the other role configurations under consideration were found. Superintendents serving in a single superintendent's role reported lower frequencies of task-based stress than those serving as a superintendent and secondary principal. The 95% confidence intervals for the pair-wise differences, as well as the means and standard deviations for the four role classifications, are reported in Table 4.5.

Table 4.5

95% Confidence Intervals of Pairwise Differences in Means of Task-Based Stress

Superintendent's Role	*M*	*SD*	Superintendent One District	Superintendent & Secondary Principal
Superintendent – One District	12.11	3.49		
Superintendent – More Than One District	12.84	3.74	[-2.2548, .7884]	[-.7633, 3.8391]
Superintendent & Elementary Principal	13.00	2.65	[-1.9244, .1469]	[-.6308, 3.3955]
Superintendent & Secondary Principal	14.38	3.78	[-4.0531, -.4891*]	

Note: An asterisk indicates that the 95% confidence interval does not contain zero, therefore the differences in means is significant at the .05 significance using Dunnett's C procedure.

The remaining four one-way ANOVA showed no significant relationships. This included the one-way analysis of variance conducted to evaluate the relationship between superintendents' roles and the frequency of experiencing board-relations stress, $F(3, 944) = .243$, $p = .866$, expectation-based stress, $F(3, 944) = 2.267$, $p = .079$, resource-management stress, $F(3, 958) = .431$, $p = .731$, and self-efficacy stress, $F(3, 961) = 2.089$, $p = .100$.

Hierarchical (Sequential) Regression

Sequential hierarchical regression was used to determine whether the independent variables were statistically significant predictors of the dependent variables. Using the P-E fit model to account for the organization of independent variables into four blocks representing either internal (person) or external (environment) variables, independent variables were entered in four blocks for each of five different regression models (board-relations stress, task-based stress, expectation-based stress, resource-management stress, self-efficacy stress). The first block entered contained variables identified as internal (person) – gender, age, highest level of education, longevity as a superintendent, and longevity as a superintendent specific to their current position. The second block entered contained variables identified as external (environment) – district size by enrollment, percentage of population with low SES, regional classification, and the impact of available funding.

Theoretically, the first two blocks were entered into the regression analyses first to determine the extent to which these internal and external variables alone predicted stress (board-relations stress, task-based stress, expectation-based stress, resource-management stress, self-efficacy stress). These specific internal and external variables, chosen for blocks one and two, were those considered difficult to impact by the participants and, in essence, those identified as consumers of the results of this study. These variables were entered in the first two blocks to account for their predictive value first in determining how much variance for which they could account.

Superintendents have far more control over changes to the internal variables associated with the third and fourth blocks. The third block entered contained variables identified as internal (person) – time in non-job-related activities, time in job-related activities beyond the traditional

40 hour work week, problem-focused social supports, and emotion-focused social supports. The fourth block, again internal (person) and highly malleable for superintendents, included four specific characteristics of leadership/management style – collaborative/collegial, extroverted/gregarious, innovative/change orientated, and relationship orientated. Ultimately it was believed that superintendents have the ability to modify their leadership style, the supports they enact, and the use of their time.

Board-Relations Stress

A sequential hierarchical regression analysis was conducted on the dependent variable of board-relations stress. Table 4.6 provides information on the blocks in which the variables were entered into the regression analysis, the unstandardized regression coefficients (*b*), the standard error for the unstandardized regression coefficient (*SE b*), standardized regression coefficients (β), and the variance (R^2) explained for each model (block).

Person variables – demographic (block 1). Results for the regression analysis indicated that within block 1, $F(5, 830) = 4.70$, $p < .001$, gender ($\beta = .097$, $p = .006$) and longevity as a superintendent specific to their current position ($\beta = -.122$, $p = .004$) were significant predictors of board-relations stress, accounting for nearly 3% ($R^2 = .028$) of the variance in board-relations stress.

Environment variables (block 2). The environmental variables of district size by enrollment, percentage of population with low SES, regional classification, and the impact of available funding were added to the hierarchical regression in block 2. Results for the regression analysis indicated that for block 2, none of the environmental variables were statistically significant predictors for board-relations stress, $F(9, 826) = 3.20$, $p = .001$. However, the person

variables of gender and longevity as a superintendent specific to their current position remained as statistically significant predictors.

Person variables – time and social supports (block 3). The personal variables of time in non-job-related activities, time in job-related activities beyond the traditional 40 hour work week, problem-focused social supports, and emotion-focused social supports were added to the hierarchical regression in block 3. Results for the regression analysis indicated that for block 3, time in job-related activities beyond the traditional 40 hour work week was a significant predictor ($\beta = .079$, $p = .024$) for board-relations stress, $F(13, 822) = 2.84$, $p = .001$, with the person variables of gender and longevity as a superintendent specific to their current position remaining as statistically significant predictors.

Person variables – leadership/management style (block 4 – full model). The personal variables consisting of four specific characteristics of leadership/management style – collaborative/collegial, extroverted/gregarious, innovative/change orientated, and relationship orientated – were added to the hierarchical regression in block 4 for the full model. Results for the regression analysis indicated that none of the leadership/management style variables were statistically significant predictors. The overall full model was statistically significant, $F(17, 818) = 2.21$, $p = .003$, with gender, years worked in current superintendent role, and time in job-related activities beyond the traditional 40 hour work week remaining as statistically significant predictors for board-related stress.

Table 4.6

Hierarchical Regression Coefficients for Board-Relations Stress (n = 836), R^2 = .044

Variable blocks	*B*	*SE b*	β
Person Variables – Demographic (block 1)			
Constant	14.772	1.419	
Gender	1.320	.479	.097**
Age	-.043	.028	-.063
Highest Level of Education	.108	.163	.023
Longevity as a Superintendent	.031	.037	.040
Longevity as a Superintendent Specific to Current Job	-.148	.052	-.122**
Environment Variables (block 2)			
Constant	12.515	1.764	
Gender	1.325	.481	.098**
Age	-.045	.028	-.066
Highest Level of Education	.089	.173	.021
Longevity as a Superintendent	.031	.037	.040
Longevity as a Superintendent Specific to Current Job	-.150	.052	-.124**
District Size by Enrollment	.222	.168	.056
Percentage of Population with Low SES	.009	.011	.043
Regional **C**lassification	.548	.537	.043
Impact of Available Funding	.224	.163	.048
Personal Variables – Time and Social Supports (block 3)			
Constant	11.334	2.080	
Gender	1.129	.494	.083**
Age	-.046	.028	-.069
Highest Level of Education	.093	.173	.020
Longevity as a Superintendent	.039	.038	.051
Longevity as a Superintendent Specific to Current Job	-.149	.052	-.123**
District Size by Enrollment	.204	.168	.052
Percentage of Population with Low SES	.010	.011	.034

Table 4.6 (Continued)

Hierarchical Regression Coefficients for Board-Relations Stress (n = 836), R^2 = .044

Variable blocks	*B*	*SE b*	β
Regional **C**lassification	.611	.536	.048
Impact of Available Funding	.198	.164	.042
Time in Non-Job-Related Activities	-.140	.173	-.028
Time in Job-Related Activities Beyond 40 Hour Week	.447	.197	.079*
Problem-Focused Social Supports	-.023	.088	-.010
Emotion-Focused Social Supports	.108	.076	.053
Personal Variables – Leadership/Management Style (block 4)			
Constant	11.479	2.100	
Gender	1.153	.500	.085*
Age	-.047	.028	-.070
Highest Level of Education	.088	.174	.019
Longevity as a Superintendent	.039	.038	.052
Longevity as a Superintendent Specific to Current Job	-.149	.052	-.123**
District Size by Enrollment	.207	.170	.052
Percentage of Population with Low SES	.010	.011	.034
Regional **C**lassification	.593	.539	.046
Impact of Available Funding	.190	.165	.040
Time in Non-Job-Related Activities	-.142	.173	-.028
Time in Job-Related Activities Beyond 40 Hour Week	.464	.199	.082*
Problem-Focused Social Supports	-.020	.089	-.009
Emotion-Focused Social Supports	.117	.078	.058
Leadership/Management – Collaborative/Collegial	-.043	.434	-.004
Leadership/Management – Extroverted/Gregarious	-.305	.394	-.028
Leadership/Management – Innovative/Change Orientated	-.029	.406	-.003
Leadership/Management – Relationship Orientated	-.071	.404	-.006

Note: R^2 - .028 for block 1; .034 for block 2; .043 for block 3; .044 for block 4 – full model
*Note: * p < .05, ** p < .01, *** p < .001*

Task-Based Stress

A second sequential hierarchical regression analysis was conducted on the dependent variable of task-based stress. Table 4.7 provides information on the blocks in which the variables were entered into the regression analysis, the unstandardized regression coefficients (*b*), the standard error for the unstandardized regression coefficient (*SE b*), standardized regression coefficients (β), and the variance (R^2) explained for each model (block).

Person variables – demographic (block 1). Results for the regression analysis indicated that within block 1, $F(4, 842) = 6.584$, $p < .001$, age ($\beta = -.128$, $p = .001$) and highest level of education ($\beta = -.124$, $p < .001$) were significant predictors of task-based stress, accounting for below 3% ($R^2 = .026$) of the variance in task-based stress.

Environment variables (block 2). The environmental variables of district size by enrollment, percentage of population with low SES, regional classification, and the impact of available funding were added to the hierarchical regression in block 2. When these additional variables were added to the model, none of the environmental variables were statistically significant predictors for task-based stress, $F(8, 838) = 4.898$, $p < .001$. However, the person variables of age and highest level of education remained as statistically significant predictors.

Person variables – time and social supports (block 3). The personal variables of time in non-job-related activities, time in job-related activities beyond the traditional 40 hour work week, problem-focused social supports, and emotion-focused social supports were added to the hierarchical regression in block 3. Results for the regression analysis indicated that for block 3, time in non-job-related activities was a significant predictor ($\beta = -.093$, $p = .006$) for task-based stress, $F(12, 834) = 4.023$, $p < .001$, with the person variables of age and highest level of education remaining as statistically significant predictors.

Person variables – leadership/management style (block 4 – full model). The personal variables consisting of four specific characteristics of leadership/management style – collaborative/collegial, extroverted/gregarious, innovative/change orientated, and relationship orientated – were added to the hierarchical regression in block 4 for the full model. Results for the regression analysis indicated that for block 4, the leadership/management style of collaborative/collegial was a significant predictor ($\beta = -.073$, $p = .044$) for task-based stress, $F(16, 830) = 3.473$, $p < .001$, with age, highest level of education, and time in non-job-related activities remaining as statistically significant predictors.

Table 4.7

Hierarchical Regression Coefficients for Task-Based Stress (n = 847), $R^2 = .063$

Variable blocks	*B*	*SE b*	β
Person Variables – Demographics (block 1)			
Constant	15.971	.865	
Age	-.055	.017	-.128**
Highest Level of Education	-.374	.103	-.124***
Longevity as a Superintendent	.019	.023	.039
Longevity as a Superintendent Specific to Current Job	-.014	.033	-.018
Environment Variables (block 2)			
Constant	14.815	1.087	
Age	-.051	.017	-.120**
Highest Level of Education	-.253	.108	-.084*
Longevity as a Superintendent	.021	.023	.044
Longevity as a Superintendent Specific to Current Job	-.022	.032	-.029
District Size by Enrollment	-.105	.106	-.041
Percentage of Population with Low SES	.010	.007	.051
Regional **C**lassification	.604	.337	.074
Impact of Available Funding	.039	.103	.013

Table 4.7 (Continued)

Hierarchical Regression Coefficients for Task-Based Stress (n = 847), R^2 = .063

Variable blocks	*B*	*SE b*	β
Personal Variables – Time and Social Supports (block 3)			
Constant	150386	1.299	
Age	-.053	.017	-.123**
Highest Level of Education	-.255	.108	-.085*
Longevity as a Superintendent	.022	.023	.045
Longevity as a Superintendent Specific to Current Job	-.019	.032	-.025
District Size by Enrollment	-.116	.106	-.046
Percentage of Population with Low SES	.010	.007	.052
Regional **C**lassification	.591	.337	.073
Impact of Available Funding	.026	.103	.009
Time in Non-Job-Related Activities	-.302	.110	-.093**
Time in Job-Related Activities Beyond 40 Hour Week	.126	.123	.035
Problem-Focused Social Supports	-.018	.055	-.012
Emotion-Focused Social Supports	.020	.047	.015
Personal Variables – Leadership/Management Style (block 4)			
Constant	15.584	1.308	
Age	-.053	.017	-.123**
Highest Level of Education	-.246	.109	-.082*
Longevity as a Superintendent	.020	.023	.041
Longevity as a Superintendent Specific to Current Job	-.024	.033	-.031
District Size by Enrollment	-.084	.107	-.033
Percentage of Population with Low SES	.010	.007	.053
Regional **C**lassification	.618	.338	.076
Impact of Available Funding	.014	.103	.005
Time in Non-Job-Related Activities	-.305	.110	-.094**
Time in Job-Related Activities Beyond 40 Hour Week	.152	.124	.042
Problem-Focused Social Supports	-.002	.055	-.001

Table 4.7 (Continued)

Hierarchical Regression Coefficients for Task-Based Stress (n = 847), R^2 = .063

Variable blocks	*B*	*SE b*	β
Emotion-Focused Social Supports	.039	.047	.030
Leadership/Management – Collaborative/Collegial	-.550	.273	-.073*
Leadership/Management – Extroverted/Gregarious	-.130	.247	-.019
Leadership/Management – Innovative/Change Orientated	-.268	.252	-.037
Leadership/Management – Relationship Orientated	-.106	.252	-.015

Note: R^2 - .030 for block 1; .045 for block 2; .055 for block 3; .063 for block 4 – full model
*Note: * p < .05, ** p < .01, *** p < .001*

Expectation-Based Stress

A third sequential hierarchical regression analysis was conducted on the dependent variable of expectation-based stress. Table 4.8 provides information on the blocks in which the variables were entered into the regression analysis, the unstandardized regression coefficients (*b*), the standard error for the unstandardized regression coefficient (*SE b*), standardized regression coefficients (β), and the variance (R^2) explained for each model (block).

Person variables – demographic (block 1). Results for the regression analysis indicated that within block 1, $F(5, 835) = 10.656$, $p < .001$, gender (β = .118, $p = .001$), age (β = -.179, $p < .001$), and highest level of education (β = -.101, $p = .003$) were significant predictors of expectation-based stress, accounting for 6% ($R^2 = .060$) of the variance in expectation-based stress.

Environment variables (block 2). The environmental variables of district size by enrollment, percentage of population with low SES, regional classification, and the impact of available funding were added to the hierarchical regression in block 2. Results for the regression analysis indicated that for block 2, impact of available funding was a significant predictor (β =

.181, $p < .001$) for expectation-based stress, $F(9, 831) = 9.447$, $p < .001$, with the person variables of gender, age, and highest level of education remaining as statistically significant predictors.

Person variables – time and social supports (block 3). The personal variables of time in non-job-related activities, time in job-related activities beyond the traditional 40 hour work week, problem-focused social supports, and emotion-focused social supports were added to the hierarchical regression in block 3. Results for the regression analysis indicated that for block 3, time in non-job-related activities (($\beta = -.142$, $p < .001$), time in job-related activities beyond the traditional 40 hour work week ($\beta = .071$, $p = .032$), and emotion-focused social supports ($\beta = .074$, $p = .044$) were significant predictors of expectation-based stress $F(13, 827) = 8.917$, $p < .001$, with the person variables of gender, age, and highest level of education, as well as the environment variable impact of available funding remaining as statistically significant predictors.

Person variables – leadership/management style (block 4 – full model). The personal variables consisting of four specific characteristics of leadership/management style – collaborative/collegial, extroverted/gregarious, innovative/change orientated, and relationship orientated – were added to the hierarchical regression in block 4 for the full model. Results for the regression analysis indicated that for block 4, the leadership/management style of extroverted/gregarious was a significant predictor ($\beta = -.096$, $p = .005$) for expectation-based stress, $F(17, 823) = 7.874$, $p < .001$, with the person variables of gender, age, and highest level of education from block 1; the environment variable impact of available funding from block 2; and the person variables of time spent in non-job-related activities, time spent in job-related activities beyond the traditional 40 hour work week, and the use of emotion-focused social supports from block 3 remaining as statistically significant predictors.

Table 4.8

Hierarchical Regression Coefficients for Expectation-Based Stress (n = 841), R^2 = .140

Variable blocks	*B*	*SE b*	β
Person Variables – Demographic (block 1)			
Constant	22.465	1.215	
Gender	1.392	.410	.118**
Age	-.106	.024	-.179***
Highest Level of Education	-.419	.140	-.101**
Longevity as a Superintendent	-.002	.032	-.002
Longevity as a Superintendent Specific to Current Job	-.027	.045	-.025
Environment Variables (block 2)			
Constant	19.749	1.490	
Gender	1.394	.406	.118**
Age	-.109	.024	-.183***
Highest Level of Education	-.367	.147	-.089*
Longevity as a Superintendent	.006	.032	.009
Longevity as a Superintendent Specific to Current Job	-.039	.044	-.036
District Size by Enrollment	-.052	.143	-.015
Percentage of Population with Low SES	-.010	.009	-.038
Regional **C**lassification	.448	.452	.040
Impact of Available Funding	.749	.140	.181***
Personal Variables – Time and Social Supports (block 3)			
Constant	19.617	1.743	
Gender	1.141	.413	.096**
Age	-.111	.023	-.188***
Highest Level of Education	-.360	.145	-.087*
Longevity as a Superintendent	.012	.032	.018
Longevity as a Superintendent Specific to Current Job	-.036	.044	-.033
District Size by Enrollment	-.076	.141	-.022
Percentage of Population with Low SES	-.008	.009	-.031

Table 4.8 (Continued)

Hierarchical Regression Coefficients for Expectation-Based Stress (n = 841), R^2 = .140

Variable blocks	*B*	*SE b*	β
Regional **C**lassification	.464	.446	.042
Impact of Available Funding	.700	.139	.169***
Time in Non-Job-Related Activities	-.638	.147	-.142***
Time in Job-Related Activities Beyond 40 Hour Week	.357	.166	.071*
Problem-Focused Social Supports	.017	.073	.008
Emotion-Focused Social Supports	.130	.064	.074*
Personal Variables – Leadership/Management Style (block 4)			
Constant	20.024	1.744	
Gender	1.197	.415	.101**
Age	-.110	.023	-.185***
Highest Level of Education	-.379	.145	-.092**
Longevity as a Superintendent	.007	.032	.010
Longevity as a Superintendent Specific to Current Job	-.039	.044	-.036
District Size by Enrollment	-.044	.142	-.013
Percentage of Population with Low SES	-.007	.009	-.029
Regional **C**lassification	.420	.445	.038
Impact of Available Funding	.668	.138	.161***
Time in Non-Job-Related Activities	-.648	.146	-.144***
Time in Job-Related Activities Beyond 40 Hour Week	.421	.167	.083*
Problem-Focused Social Supports	.041	.073	.020
Emotion-Focused Social Supports	.171	.065	.097**
Leadership/Management – Collaborative/Collegial	-.695	.364	-.067
Leadership/Management – Extroverted/Gregarious	-.915	.327	-.096**
Leadership/Management – Innovative/Change Orientated	-.004	.338	.000
Leadership/Management – Relationship Orientated	-.287	.336	-.030

Note: R^2 - .060 for block 1; .093 for block 2; .123 for block 3; .140 for block 4 – full model
*Note: * p < .05, ** p < .01, *** p < .001*

Resource-Management Stress

A fourth sequential hierarchical regression analysis was conducted on the dependent variable of resource-management stress. Table 4.9 provides information on the blocks in which the variables were entered into the regression analysis, the unstandardized regression coefficients (*b*), the standard error for the unstandardized regression coefficient (*SE b*), standardized regression coefficients (β), and the variance (R^2) explained for each model (block).

Person variables – demographic (block 1). Results for the regression analysis indicated that none of the personal variables within block 1 – age, highest level of education, overall longevity as a superintendent, and longevity in the current position – were statistically significant predictors for resource-management stress, $F(4, 845) = 1.703$, $p = .147$.

Environment variables (block 2). The environmental variables of district size by enrollment, percentage of population with low SES, regional classification, and the impact of available funding were added to the hierarchical regression in block 2. Results for the regression analysis indicated that for block 2, district size by enrollment (β = .118, $p = .004$), percentage of population with low SES (β = -.075, $p = .03$), regional classification (β = .103, $p = .012$), and impact of available funding (β = .251, $p < .001$) were significant predictors of resource-management stress, $F(8, 841) = 10.225$, $p < .001$. In addition, the person variable of highest level of education (β = -.080, $p = .024$) was also a statistically significant predictor.

Person variables – time and social supports (block 3). The personal variables of time in non-job-related activities, time in job-related activities beyond the traditional 40 hour work week, problem-focused social supports, and emotion-focused social supports were added to the hierarchical regression in block 3. Results for the regression analysis indicated that for block 3, use of problem-focused social supports was a significant predictor (β = .092, $p = .011$) for

resource-management stress, $F(12, 837) = 7.794$, $p < .001$, with the person variable of highest level of education and environment variables of enrollment, regional classification, and impact of available funding remaining as statistically significant predictors.

Person variables – leadership/management style (block 4 – full model). The personal variables consisting of four specific characteristics of leadership/management style – collaborative/collegial, extroverted/gregarious, innovative/change orientated, and relationship orientated – were added to the hierarchical regression in block 4 for the full model. Results for the regression analysis indicated that none of the leadership/management style variables were statistically significant predictors. The overall full model was statistically significant, $F(16, 833) = 6.227$, $p < .001$, with highest level of education, enrollment, regional classification, impact of available funding, and use of problem-focused social supports remaining as statistically significant predictors of resource-management stress.

Table 4.9

Hierarchical Regression Coefficients for Resource-Management Stress (n = 850), $R^2 = .107$

Variable blocks	*B*	*SE b*	β
Person Variables – Demographic (block 1)			
Constant	7.371	.658	
Age	.013	.013	.041
Highest Level of Education	-.142	.079	-.062
Longevity as a Superintendent	-.029	.018	-.077
Longevity as a Superintendent Specific to Current Job	.031	.025	.052
Environment Variables (block 2)			
Constant	4.581	.796	
Age	.011	.013	.034
Highest Level of Education	-.181	.080	-.080*
Longevity as a Superintendent	-.027	.017	-.073

Table 4.9 (Continued)

Hierarchical Regression Coefficients for Resource-Management Stress (n = 850), R^2 = .107

Variable blocks	*B*	*SE b*	β
Longevity as a Superintendent Specific to Current Job	.024	.024	.041
District Size by Enrollment	.226	.079	.118**
Percentage of Population with Low SES	-.011	.005	-.075*
Regional **C**lassification	.638	.252	.103*
Impact of Available Funding	.570	.076	.251***
Personal Variables – Time and Social Supports (block 3)			
Constant	3.305	.955	
Age	.010	.013	.030
Highest Level of Education	-.179	.080	-.079*
Longevity as a Superintendent	-.020	.017	-.053
Longevity as a Superintendent Specific to Current Job	.021	.024	.036
District Size by Enrollment	.227	.079	.119**
Percentage of Population with Low SES	-.009	.005	-.066
Regional **C**lassification	.656	.252	.106**
Impact of Available Funding	.547	.077	.241***
Time in Non-Job-Related Activities	-.054	.081	-.022
Time in Job-Related Activities Beyond 40 Hour Week	-.004	.091	-.002
Problem-Focused Social Supports	.104	.040	.092*
Emotion-Focused Social Supports	.035	.034	.036
Personal Variables – Leadership/Management Style (block 4)			
Constant	3.543	.963	
Age	.007	.013	.022
Highest Level of Education	-.077	.080	-.078*
Longevity as a Superintendent	-.019	.017	-.051
Longevity as a Superintendent Specific to Current Job	.021	.024	.035
District Size by Enrollment	.227	.079	.119**
Percentage of Population with Low SES	-.009	.005	-.060

Table 4.9 (Continued)

Hierarchical Regression Coefficients for Resource-Management Stress (n = 850), R^2 = .107

Variable blocks	*B*	*SE b*	β
Regional **C**lassification	.634	.252	.103*
Impact of Available Funding	.539	.077	.237***
Time in Non-Job-Related Activities	-.055	.081	-.022
Time in Job-Related Activities Beyond 40 Hour Week	.022	.092	.008
Problem-Focused Social Supports	.104	.041	.092*
Emotion-Focused Social Supports	.047	.035	.049
Leadership/Management – Collaborative/Collegial	.081	.201	.014
Leadership/Management – Extroverted/Gregarious	-.347	.182	.066
Leadership/Management – Innovative/Change Orientated	-.199	.186	-.037
Leadership/Management – Relationship Orientated	-.004	.185	-.001

Note: R^2 - .008 for block 1; .089 for block 2; .101 for block 3; .107 for block 4 – full model
*Note: * p < .05, ** p < .01, *** p < .001*

Self-Efficacy Stress

A fifth, and final, sequential hierarchical regression analysis was conducted on the dependent variable of self-efficacy stress. Table 4.10 provides information on the blocks in which the variables were entered into the regression analysis, the unstandardized regression coefficients (*b*), the standard error for the unstandardized regression coefficient (*SE b*), standardized regression coefficients (β), and the variance (R^2) explained for each model (block).

Person variables – demographic (block 1). Results for the regression analysis indicated that within block 1, $F(4, 846) = 13.292$, $p < .001$, highest level of education (β = -.130, $p < .001$) and overall years served as a superintendent (β = -.135, $p = .004$), were significant predictors of self-efficacy stress, accounting for nearly 6% ($R^2 = .059$) of the variance in self-efficacy stress.

Environment variables (block 2). The environmental variables of district size by enrollment, percentage of population with low SES, regional classification, and the impact of available funding were added to the hierarchical regression in block 2. Results for the regression analysis indicated that for block 2, impact of available funding was a significant predictor (β = .094, $p = .005$) for self-efficacy stress, $F(8, 842) = 8.646$, $p < .001$, with the person variables of highest level of education and overall years served as a superintendent remaining as statistically significant predictors. In addition, the person variable number of years served in the current district (β = -.090, $p = .029$) was also a statistically significant predictor.

Person variables – time and social supports (block 3). The personal variables of time in non-job-related activities, time in job-related activities beyond the traditional 40 hour work week, problem-focused social supports, and emotion-focused social supports were added to the hierarchical regression in block 3. Results for the regression analysis indicated that for block 3, time in non-job-related activities was a significant predictor (β = -.088, $p = .008$) for self-efficacy stress, $F(12, 838) = 6.854$, $p < .001$, with the person variables of highest level of education, overall years served as a superintendent, and number of years served in the current district, as well as the environment variable of impact of available funding, were again statistically significant predictors of self-efficacy stress.

Person variables – leadership/management style (block 4 – full model). The personal variables consisting of four specific characteristics of leadership/management style – collaborative/collegial, extroverted/gregarious, innovative/change orientated, and relationship orientated – were added to the hierarchical regression in block 4 for the full model. Results of the regression analysis indicated that for block 4, the leadership/management style extroverted/gregarious was a significant predictor (β = -.144, $p < .001$) for self-efficacy stress,

$F(16, 834) = 6.564$, $p < .001$, with the person variables of highest level of education, overall years served as a superintendent, and number of years served in the current district from block 1; the environment variable of impact of available funding from block 2; and the person variable of time spent in non-job-related activities from block 3 remaining as statistically significant predictors. In addition, the person variable time spent in job-related activities beyond the traditional 40 hour work week ($\beta = .072$, $p = .031$) was also a statistically significant predictor.

Table 4.10

Hierarchical Regression Coefficients for Self-Efficacy Stress (n = 851), $R^2 = .112$

Variable blocks	*B*	*SE b*	β
Person Variables – Demographic (block 1)			
Constant	9.857	.678	
Age	-.001	.014	-.004
Highest Level of Education	-.311	.081	-.130***
Longevity as a Superintendent	-.053	.018	-.135**
Longevity as a Superintendent Specific to Current Job	-.048	.026	-.076
Environment Variables (block 2)			
Constant	8.852	.845	
Age	.000	.014	.000
Highest Level of Education	-.229	.085	-.096**
Longevity as a Superintendent	-.049	.018	-.124**
Longevity as a Superintendent Specific to Current Job	-.057	.026	-.090*
District Size by Enrollment	-.127	.083	-.063
Percentage of Population with Low SES	.000	.005	-.002
Regional **C**lassification	.363	.262	.056
Impact of Available Funding	.226	.081	.094**
Personal Variables – Time and Social Supports (block 3)			
Constant	8.337	1.014	
Age	-.002	.014	-.006

Table 4.10 (Continued)

Hierarchical Regression Coefficients for Self-Efficacy Stress (n = 851), R^2 = .112

Variable blocks	*B*	*SE b*	β
Highest Level of Education	-.228	.084	-.095**
Longevity as a Superintendent	-.043	.018	-.109*
Longevity as a Superintendent Specific to Current Job	-.057	.026	-.090*
District Size by Enrollment	-.134	.083	-.067
Percentage of Population with Low SES	.001	.005	.003
Regional **C**lassification	.377	.261	.058
Impact of Available Funding	.196	.081	.082*
Time in Non-Job-Related Activities	-.228	.086	-.088**
Time in Job-Related Activities Beyond 40 Hour Week	.157	.096	.055
Problem-Focused Social Supports	.045	.043	.038
Emotion-Focused Social Supports	.031	.036	.031
Personal Variables – Leadership/Management Style (block 4)			
Constant	8.731	1.013	
Age	-.005	.013	-.015
Highest Level of Education	-.235	.084	-.098**
Longevity as a Superintendent	-.044	.018	-.111*
Longevity as a Superintendent Specific to Current Job	-.055	.026	-.087*
District Size by Enrollment	-.144	.083	-.071
Percentage of Population with Low SES	.002	.005	.013
Regional **C**lassification	.303	.259	.047
Impact of Available Funding	.178	.081	.074*
Time in Non-Job-Related Activities	-.231	.085	-.089**
Time in Job-Related Activities Beyond 40 Hour Week	.208	.096	.072*
Problem-Focused Social Supports	.048	.043	.040
Emotion-Focused Social Supports	.055	.036	.054
Leadership/Management – Collaborative/Collegial	.144	.211	.024
Leadership/Management – Extroverted/Gregarious	-.798	.192	-.144***

Table 4.10 (Continued)

Hierarchical Regression Coefficients for Self-Efficacy Stress (n = 851), R^2 = .112

Variable blocks	*B*	*SE b*	β
Leadership/Management – Innovative/Change Orientated	-.162	.197	-.028
Leadership/Management – Relationship Orientated	-.082	.195	-.015

Note: R^2 - .059 for block 1; .076 for block 2; .089 for block 3; .112 for block 4 – full model
*Note: * p < .05, ** p < .01, *** p < .001*

Summary Answers to Research Questions

Each of the six research questions is answered in this section, using results from the data analyses presented in this chapter.

Research Question 1 – Background Characteristics

What are the background characteristics (Person) of Midwest superintendents?

Of the 992 participants in the sample, 79.3% were male and 20.7% were female. Participants ranged in age from 29 to 74, with the mean age of participants at 52.05, *SD* = 8.14. Masters Degrees were held by 20.3% of the participants, while 34% held an Ed.S., 10.8% an Ed.D. or Ph.D., in progress, and 34.9% an Ed.D. or Ph.D. Total years served as superintendent ranged from .5 years to 43 years, with the mean being 8.84, *SD* = .23. The total number of years served in the superintendent's present district ranged from .5 years to 37 years, with the mean being 5.5, *SD* = .14. When considering the four categories of superintendent roles identified in this study, 85.9% of participants reported they were serving one district with no other job assignments. Five percent were superintendents in more than one district, 5.2% were superintendent and elementary principal, and 3.5% were superintendent and secondary principal.

Participating superintendents reported spending between 0 and 118 hours engaging in non-job-related activities each week, with the mean hours being 16.75. *SD* = .41. The range for

hours spent on work-related activities, beyond a normal 40 hour work week, was 0 to 80. The mean hours reported for this survey question was 21.83, *SD* = .40.

The largest response rate was from superintendents from Illinois (13%), followed closely by Iowa (12.3%). Table 4.11 provides specific participant response rates by state.

Table 4.11

Participant Response Rate by State (n = 992)

State	N	%
Illinois	129	13.0
Iowa	122	12.3
Michigan	98	9.9
Missouri	95	9.6
Ohio	95	9.6
Nebraska	93	9.4
Wisconsin	91	9.2
Minnesota	81	8.2
Kansas	68	6.9
Indiana	47	4.7
South Dakota	43	4.3
North Dakota	30	3.0

The most dominant leadership/management style reported by participating superintendents was dependable/loyal. Table 4.12 provides details of responses for each item on the leadership/management inventory.

Table 4.12

Participant Responses for Leadership/Management Inventory (n = 992)

	N	%	%	N	
Dependable, loyal	926	93.7	6.3	62	Plucky, dauntless
Child, youth orientated	895	90.6	9.4	93	Teacher orientated
Tolerant, lenient	795	81.0	19.0	187	Uncompromising, exacting
Observant, discerning	754	75.6	24.4	241	Accepting, pacifying
Commonsensical	732	74.6	25.4	249	Research based
Solid, realistic	700	71.4	28.6	280	Imaginative, idealistic
Traditional, conventional	682	69.5	30.5	300	Outspoken, unconventional
Collaborative, collegial	681	69.3	30.7	301	Self-reliant, independent
Contemporary, current	667	67.4	32.6	323	Mainstream, restrained
Resourceful, ingenious	658	67.3	32.7	319	Political, resilient
Constructively critical	645	65.3	34.7	342	Nonjudgmental
Organized, systematic	625	63.5	36.5	359	Informal, relaxed
Innovative, change orientated	619	63.2	36.8	360	Patient, steady
Ethical, scrupulous	614	62.4	37.6	370	Expedient, practical
Perceptive, insightful	576	58.7	41.3	405	Knowledgeable, informed
Personable, congenial	566	57.6	42.4	417	Humane, compassionate
Inspiring, encouraging	561	57.0	43.0	424	Competent, skilled
Productive, efficient	557	57.0	43.0	420	Conscientious, industrious
Relationship orientated	558	56.9	43.1	422	Task/goal orientated
Enthusiastic, passionate	514	52.5	47.5	465	Calm, poised
Extroverted, gregarious	515	52.2	47.8	471	Quiet, unobtrusive
Open, outgoing	514	52.2	47.8	471	Controlled, self-contained
Assertive, determined	514	52.1	47.9	473	Gentle, easy going
Visionary, altruistic	463	47.2	52.8	518	Flexible, pragmatic
Risk-taking, bold	400	40.8	59.2	581	Moderate, temperate

Of the eight social supports that appeared on the superintendent survey, the most frequently used social support reported by participating superintendents was to talk to someone to find out more about the situation. Table 4.13 provides details of superintendent responses.

Table 4.13

Participant Responses for Frequency in Using Social Supports (n = 992)

	I usually don't do this at all	I usually do this a little bit	I usually do this a medium amount	I usually do this a lot
Problem-focused social supports				
I talk to someone to find out more about the situation	.5%	14.6%	39.1%	45.7%
I ask people who have similar experiences what they did	4.0%	31.8%	42.2%	21.9%
I try to get advice from someone about what to do	3.6%	41.6%	42.6%	12.3%
I talk to someone who could do something concrete about the problem	10.7%	34.7%	37.1%	17.5%
Emotion-focused social supports				
I discuss my feelings with someone	23.4%	44.2%	26.8%	5.7%
I try to get emotional support from friends or relatives	36.0%	38.1%	11.8%	1.7%
I talk to someone about how I feel	38.4%	42.5%	15.1%	4.0%
I get sympathy and understanding from someone	50.7%	35.8%	11.8%	1.7%

Research Question 2 – External Variables

What are the external variables (Environment) reported by Midwest superintendents?

Participants represented school districts with enrollment ranging from 26 students to 37,000 students. The mean enrollment was 1,866.68, *SD* = 94.03. They represented school districts whose percentage of students receiving free or reduced price lunches ranging from 0% to 100%, with a mean percentage of 42.65, *SD* = .59. Participants reported their respective school

districts as rural, suburban, or urban, indicating 5.1% were urban, 19.1% were suburban, and 75.4% were rural. The final variable describing each represented district, impact of available funding, revealed that 41.6% found this to be a critical problem that results in minimal financial growth. Considering all categories of responses, 86.4% responded that the impact of available funding was in a problem in some manner.

Research Question 3 – Age, Level of Education, Longevity

Is there a statistically significant relationship between a superintendent's age, level of education, and longevity and stress factors associated with the superintendency?

Age. Results from the correlation analysis revealed a relationship between a superintendent's age and two of the stress variables – task-based stress and expectation-based stress. Both were negative relationships, indicating that younger superintendents were more likely to be experiencing a higher frequency of being bothered by both types of stressors.

Level of education. Highest level of education was also examined in relationship to each of the five identified stress factors. Results of the analysis revealed that a negative relationship existed between level of education and both task-based stress and self-efficacy stress. This negative relationship indicated that superintendents with less education had a higher likelihood of feeling more bothered by the frequency of task-based stressors and stressors within the self-efficacy construct.

Longevity. When considering the total number of years a participant had been a superintendent, again two negative relationships emerged. Those with less overall experience reported a higher frequency of being bothered by expectation-based stress and self-efficacy stress. However, when narrowing the focus to just the number of years a superintendent had served in their present district, one of the negative relationships changed. Instead of experiencing

expectation-based stress, superintendents newer to their district reported a higher frequency of being bothered by board-relations stress. The relationship between fewer years and higher self-efficacy stress remained the same.

Research Question 4 – Gender

Is there a statistically significant difference based on gender and stress factors associated with the superintendency?

For two of the five stress factors, a positive relationship emerged for female participants. Female superintendents reported higher frequency of being bothered by both board-relations stressors and expectation-based stressors. There were no significant relationships identified for the task-based stress, resource-management stress, or self-efficacy stress in terms of gender differences.

Research Question 5 – Job Assignment

Is there a statistically significant difference associated with a superintendent's job assignment and stress factors associated with the superintendency?

The only difference in stress factors identified through the analysis of a superintendent's role was task-based stress. Specifically, a difference in the frequency of being bothered by task-based stressors was identified between superintendents with no other job titles and those serving as both a superintendent and secondary principal. The frequency of such stressors was higher for those with expanded duties.

Research Question 6 – Administrative Stress

To what extent do the person variables (leadership/management style, social support, time in non-job-related activities, time in work-related activities) and the environment variables

(district size, SES, regional classification, district financial health) predict stress factors associated with the superintendency?

Board-relations stress. Results for the hierarchical regression analysis for the dependent variable board-relations stress revealed that person variables considered demographic in nature, as well as one person variable related to time, impacted the frequency of being bothered by board-relations stress. Both a superintendent's gender and the length of time they had been in their current position were predictors of board-relations stress. Analysis indicated that being a female superintendent rather than a male superintendent was a predictor for the presence of board-relations stress. The analysis also provided evidence that the shorter the tenure the more likely board-relations stress existed. Considering the variable of time, the more likely a superintendent was to spend more than 40 hours per week in job-related activities, the higher the likelihood of experiencing board-relations stress.

Task-based stress. Results for the hierarchical regression analysis again revealed person variables considered demographic in nature and related to time as statistically significant predictors for experiencing a higher frequency of task-based stress. In the first block of person variables, both a superintendent's age and their highest level of education were predictors of task-based stress. Analysis indicated that the younger a superintendent was, the more one could predict the presence of task-based stress. Likewise, the less advanced a superintendent was with their highest level of education, the more likely they were to experience being bothered by task-based stress. Regarding time, superintendents spending lower amounts of time in non-job-related activities experienced higher frequency of task-based stress. And in terms of leadership/management style, superintendents with a less likelihood of being collaborative/collegial had a higher frequency of experiencing task-based stress.

Expectation-based stress. Results for the hierarchical regression analysis revealed all four blocks of variables predicted higher frequency of being bothered by expectation-based stress. In the first block of person variables, gender, a superintendent's age, and their highest level of education were predictors of expectation-based stress. Analysis indicated that female superintendents were more likely to experience higher frequencies of being bothered by expectation-based stress. And the younger a superintendent was, the more one could predict the presence of expectation-based stress. Likewise, the less advanced a superintendent was with their highest level of education, the more likely they were to experience being bothered by expectation-based stress.

Adding in environment variables, analysis indicated that the impact of available funding was a predictor of being bothered by expectation-based stress. The more available funding was considered a critical problem, the higher the frequency of expectation-based stress.

Three person variables from block three predicted higher frequency of being bothered by expectation-based stress – two related to time and the third related to use of emotion-focused social supports. Superintendents spending less time in non-job-related activities had a higher predictability of experiencing expectation-based stress. Similarly, superintendents spending larger amounts of time in job-related activities beyond a traditional 40 hour work week were more likely to experience expectation-based stress. Regarding the use of social supports, employing social supports for emotional reasons was a predictor of expectation-based stress.

One person variable from the fourth block, a leadership/management style of extroverted/gregarious, was a predictor of expectation-based stress. Those superintendents tending to access an extroverted/gregarious leadership style had a lower likelihood of experiencing expectation-based stress.

Resource-management stress. Results for the hierarchical regression analysis revealed three of the four blocks of variables predicted higher frequency of being bothered by resource-management stress. Only one person variable that is demographic in nature, highest level of education, was statistically significant. The less advanced a superintendent was with their highest level of education, the more likely they were to experience being bothered by resource-management stress. Analysis of environment variables indicated that the number of students in the district, the regional classification of the district, and the impact of available funding were all predictors of being bothered by resource-management stress. As enrollment increased, the predictability of resource-management stress increased. In terms of regional classification, the analysis revealed that superintendents serving rural schools were more likely to experience being bothered by resource-management stress. And the more available funding was considered a critical problem, the higher the frequency of resource-management stress.

One person variable from block three predicted higher frequency of being bothered by resource-management stress. Superintendents employing social supports that are problem-focused were more likely to experience higher frequencies of being bothered by resource-management stress.

Self-efficacy stress. Results for the hierarchical regression analysis revealed all four blocks of variables predicted higher frequency of being bothered by self-efficacy stress. In the first block of person variables, a superintendent's highest level of education and number of years served as a superintendent were predictors of self-efficacy stress. Analysis indicated that superintendents who had more advanced degrees were less likely to have experienced self-efficacy stress. Likewise, the longer one had been a superintendent, the less likely they were to have experienced being bothered by self-efficacy stress.

The environment variable related to the impact of available funding was also found to be a predictor of being bothered by self-efficacy stress. The more available funding was considered a critical problem, the higher the frequency of self-efficacy stress.

Two person variables from block three predicted higher frequency of being bothered by self-efficacy stress. Superintendents spending less time in non-job-related activities had a higher predictability of experiencing self-efficacy stress. And superintendents spending larger amounts of time in job-related activities beyond a traditional 40 hour work week were more likely to experience self-efficacy stress.

And finally, a leadership/management style of extroverted/gregarious was a predictor of less frequent self-efficacy stress. Those superintendents tending to access this leadership style more had a lower predictability of experiencing this type of stress.

Summary

This chapter provided results for the data analysis methods described in chapter 3. Analysis of data indicated assumptions of normality were met. A total of 50 of the 231 correlations were statistically significant using the Bonferonni adjustment, with significant relationships described. Background characteristics for the participants and the external environment characteristics were presented. Differences in independent variables were described, and the result of each hierarchical regression was provided. Results indicated independent variables from each block predicted the newly identified stress constructs. Table 4.14 provides a summary of these predictions. Chapter 5 provides a discussion of the results and recommendations for practice and future research.

Table 4.14

Summary of Hierarchical Regression Analysis – Significant Predictors for Each of the Full Models

Predictor Variables	Board-Relations Stress	Task-Based Stress	Expectation-Based Stress	Resource-Management Stress	Self-Efficacy Stress
Person Variables					
Gender	Yes	--	Yes	--	--
Age	--	Yes	Yes	--	--
Highest Level of Education	--	Yes	Yes	Yes	Yes
Longevity as a Superintendent	--	--	--	--	Yes
Longevity as a Superintendent Specific to Current Job	Yes	--	--	--	Yes
Environment Variables					
District Size by Enrollment	--	--	--	Yes	--
Percentage of Population with Low SES	--	--	--	--	--
Regional **C**lassification	--	--	--	Yes	--
Impact of Available Funding	--	--	Yes	Yes	Yes
Personal Variables					
Time in Non-Job-Related Activities	--	Yes	Yes	--	Yes
Time in Job-Related Activities Beyond 40 Hour Week	Yes	--	Yes	--	Yes
Problem-Focused Social Supports	--	--	--	Yes	--
Emotion-Focused Social Supports	--	--	Yes	--	--
Personal Variables					
Collaborative/Collegial	--	Yes	--	--	--
Extroverted/Gregarious	--	--	Yes	--	Yes
Innovative/Change Orientated	--	--	--	--	--
Relationship Orientated	--	--	--	--	--

CHAPTER 5

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

This chapter provides a discussion of the results presented in chapter 4, informed by the theoretical framework of this study and current literature. The chapter begins with a summary of the study, followed by discussion of results as they pertain to P-E fit, implications for policy and practice, recommendations for future research, and concluding with final thoughts on the investigation.

Summary of the Study

Chapter 1 provided an overview of the problem of stress associated with the superintendency and a review of the complexity of the issue. This included a description of the importance of the study and an explanation of the background information that grounds this research with existing literature. Information was provided on the purpose of the study and research questions, including a discussion of person-environment fit (P-E fit) (Kristof-Brown, 2005). Chapter 1 concluded with the significance of the study and definitions of key terms and acronyms.

Chapter 2 provided an overview of three strands of literature. First, the position of school superintendent, including the historical evolution of the position and a description of the current state of the school superintendency, were considered. Second, a review of literature on stress in general, job-related stress, and then, stress as it relates to the superintendency, was provided. The third section provided a review of P-E fit, which served as the framework for this study.

Chapter 3 described the methodological approach used in this study. The philosophical assumptions, research design and research questions, independent and dependent variables along with the results from the factor analyses conducted for the social supports constructs and superintendent stress constructs were each presented. Details were provided on how data were

analyzed to address each of the research questions. The chapter included a review of the connection of the variables to the theoretical framework and the plan for conducting correlations, independent samples *t*-tests, one-way ANOVAs, and hierarchical regression analyses. The chapter concluded with a discussion regarding the delimitations and limitations of the study.

Chapter 4 provided results of the analyses conducted, including a review of methods for screening the data and establishment of assumptions of normality. Frequencies and descriptive statistics were provided, as well as results of significant correlations for each of the independent and dependent variables reported in the regression analyses. Results of the independent samples *t*-tests, one-way ANOVAs, and hierarchical regression analyses were provided. The chapter concluded by providing answers to the six research questions posed in this study.

The following sections of this chapter (chapter 5) provide a discussion of results as they relate to the independent variables within the P-E fit framework, as well as how the results relate to the dependent variables. The implications for policy and practice, as well as recommendations for future research are then provided. The chapter concludes with final thoughts on this investigation.

Discussion of the Results

Fewer candidates are seeking the superintendency (Farkas et al., 2001; Cunningham & Burdick, 1999; Lashway, 2002; Wolverton, 2004), and the turnover rate for those already in the field is perceived by superintendents to be of concern (Fusarelli et al., 2003). Stress associated with the superintendency has been shown to be a contributing factor to this turnover (Lashway, 2002). Understanding the relationship between personal and environmental factors and superintendent stress, specifically the ability to predict this stress by evaluating the personal and environmental factors, is a first step in decreasing stress and extending superintendent tenure.

With attention to this information, aspiring and practicing superintendents, as well as the networks that train and support them, can be better informed. Superintendents can either make career choices that best match the personal and environmental characteristics that cannot be changed or make personal decisions and choices regarding themselves that have the potential to reduce stress within the job.

The goal of this study was to determine predictors of superintendent stress through an examination of personal and environmental factors. The results show that, depending on the type of stress being considered, both personal and environmental factors can predict frequency of stressors. In the sections below, each of these independent variables is discussed in detail.

Person Variables

Thirteen person-related variables were examined in this study. Five of them are considered pre-existing factors, while the remaining eight have the potential to be adjusted by a superintendent. The five factors considered relatively fixed include gender, age, highest level of education, and the length of time one has been a superintendent or has been in their present position. The three latter factors are to some degree changeable, albeit they would each require a significant amount of time to change. The remaining eight factors, given the will to do so, could be changed immediately by a superintendent. These include time spent in non-job-related and job-related activities, the use of social supports, and differing leadership styles.

Demographics. Each of the demographic variables included in this study predicted frequency of stress in at least one of the identified five categories of superintendent stress. These included gender, age, highest level of education, and the number of years a participant had been a superintendent. Two striking themes emerged considering the demographic variables, the first

being that gender does matter, and the second that level of education was a mediating factor for four of the five categories of superintendent stress.

Gender. Gender was a statistically significant predictor in two categories of superintendent stress – board-relations stress and expectation-based stress. While men have traditionally outnumbered women in the superintendency, the number of women superintendents continues to grow (Glass, 1992; Glass et al., 2000; Glass & Franceschini, 2007; Kowalski et al., 2011). These findings support the research of Skrla et al. (2000) in which the researchers described a higher level of scrutiny and questioning of leadership abilities for women. Skrla et al. described difficulties for women that included having their competency questioned, being stereotyped, and being intimidated, but they also placed blame on women in general for allowing themselves to be silenced regarding these experiences. In the present study, survey items such as *thinking that I will not be able to satisfy the conflicting demands of board members* and *not knowing what board members think of me or how they evaluate my performance* relate to the scrutiny reported by Skrla et al. (2000).

Women, being more susceptible to board-relations stress and expectation-based stress, may find value in considering other mediating factors, such as those identified in this study, for reducing or coping with these types of stress. For example, two such options pertaining specifically to board-relations stress would be longevity in their current position and the amount of time they spend in work-related activities. Because longevity in a district predicted lower board-relations stress, it would seem that women, as well as their male counterparts, would see a reduction of such stress over time. And with time spent working beyond a traditional 40 hour work week as another predictor of board-relations stress, female superintendents might consider moderating this type of stress by adjusting their working hours per work week.

The results of this study also indicated a higher likelihood for women superintendents to experience expectation-based stress. Because age also emerged as a predictive variable for expectation-based stress, one consideration, particularly for women, would be to enter the profession at a later age. A second consideration, because it too emerged as a predictor of expectation-based stress, would be pursuing advanced coursework associated with higher degrees. Women may also want to consider other mediating factors that were identified as predicting higher expectation-based stress such as higher concern for available funding, less time spent in non-job-related activities, more time spent working beyond 40 hours a week, higher likelihood to use emotion-focused social supports, and less likelihood to be an extroverted/gregarious leader.

Level of education. Contrary to findings by Botts (1986) that level of education did not impact experiencing stress, superintendents in the present study that had completed more advance degrees experienced less stress. More specifically, four of the five categories of superintendent stress studied here were less frequent for superintendents having a more advanced degree. While there is no national curriculum for the preparation and licensure of school superintendents, experiencing the process of advanced coursework associated with higher degrees should be considered if one is looking to impact superintendent stress on a less immediate basis.

Time and social supports. Each of the person variables included in this block predicted frequency of stress. This included time in non-job-related activities, time in job-related activities beyond a traditional 40 hour work week, and use of problem-focused and emotion-focused social supports. In addition to all four variables emerging as predictors, all five categories of stress were impacted.

Time. The way a superintendent chooses to use their time had predictive power for frequency of board-relations stress, task-based stress, expectation-based stress, and self-efficacy stress. Making adjustments to the way one spends their time outside a traditional 40 hour work week has the potential to reduce these types of stress. Chan et al. (2001) found that no superintendent worked for 40 or fewer hours a week. Rather they found that more than 85% of respondents in their study worked 50 or more hours per week, and more than 40% worked more than 60 hours per week. Eastman and Mirachnick (1991) concluded that the demands on superintendents left them with little time to pursue individual social or leisure needs.

Given the findings of the present study, the condition called *workaholism* identified by McKay (2004) should be considered. Described as a condition of work addiction among school administrators, it is often considered an asset rather than a liability. In light of the predictability power on four of the five categories of superintendent stress identified in the present study, superintendents are urged to reconsider this mindset. Investing more time in non-job-related activities and less time on work beyond the normal work week are offered as viable and worthy stress reduction strategies. In his profile of 14 superintendents nearing the end of their career, Patterson (2000) described “the good, the bad, and the ugly” (p. 21) of the superintendency through personal accounts. He described the human toll of the superintendency, and cited the impact it can have on personal health and the well-being of an individual and their family. Coupled with the references to workaholism (McKay, 2004) and the findings of the present study, practicing and aspiring superintendents are urged to pay heed to the importance of decisions related to their personal and work time.

Social supports. The two social supports constructs identified in this study also emerged as statistically significant predictors of superintendent stress. Social supports have been

categorized as either problem focused or emotion focused. While differing names are used by others (Carver et al., 1989; Jimmieson et al., 2010), there is agreement that some social supports include more tangible assistance in the form of knowledge or advice needed to resolve an issue, while others involve offering care or being sympathetic to another person.

Use of problem-focused social supports, including such things as *asking people who have had similar experiences what they did* and *talking to someone who could do something concrete about the problem,* was found to be a predictor of resource-management stress. This finding is counter-intuitive to the nature of seeking out social supports. One would assume that seeking input from others who had encountered a similar experience regarding the management of resources would provide an avenue to reduce or prevent stress. However, in the present study of practicing superintendents, a statistically significant predictive relationship emerged between use of problem-focused social supports and resource-management stress. This is an enlightening finding for superintendents who might seek such support as a stress reducing strategy. While the finding provides no guidance for where better to direct attention, a conscious decision to rely less on this type of social support may be worth consideration.

The other social support construct included in this study, emotion-focused social supports, was also associated with only one stress category – expectation-based stress. Employing emotion-focused strategies such as *discussing feelings with someone* and *getting sympathy and understanding from someone* was found to predict a higher frequency of expectation-based stress. Again, this provides no specific direction for where better to direct attention, but it does provide superintendents who possess a natural tendency to access this type of support with a rationale for making a conscious effort to rely less on emotion-focused supports when stress around expectations rises.

Leadership/management style. The regression analysis indicated that two of the superintendent stress categories were not significantly impacted by any of the leadership/management styles chosen for inclusion in the analysis. These were board-relations stress and resource-management stress. The other three areas – task-based stress, expectation-based stress, and self-efficacy stress – did indicate some predictability. Superintendents reporting a more collaborative/collegial leadership style experienced less frequency of task-based stress, and those reporting a more extroverted/gregarious style experienced less frequency of expectation-based stress and self-efficacy stress.

Collaborative/collegial. Only task-based stress was impacted by a more collaborative/collegial leadership style. Preferred by nearly 70% of the respondents in the present study, a collaborative/collegial style represents inclusion of others and an ability to share information and ideas. Considering that the task-based stress construct included items such as frequency of work interruptions, time needed for meetings, and time spent in communication with others, it is logical to see that those more likely to readily engage in such interactions would experience less stress. For those interested in reducing task-based stress, an attempt to engage in a more collaborative/collegial style is recommended.

Extroverted/gregarious. Operating from a style that is extroverted/gregarious impacted two of the five stress constructs. Superintendents accessing a leadership/management style that was extroverted/gregarious tended to have lower frequency of expectation-based stress and self-efficacy stress. In a related discussion, Cain (2013) described a societal preference toward leaders who exhibit a more extroverted persona or style. With this societal preference in mind, it is interesting to note the relationship between this and a lower frequency of these two stress categories. For superintendents who are experiencing high frequency of expectation-based stress

or self-efficacy stress, a self-assessment of leadership style, particularly if they are not extroverted/gregarious is recommended. This is especially true again for female superintendents, younger superintendents, and those with less advance degree coursework in light of the higher predictive power of these subgroups to experience expectation-based stress.

Environment Variables

Of the four environment variables selected for inclusion in this study, only one – socioeconomic status of the student population – had no statistically significant predictive power for superintendent stress. The other three variables – size of the district by enrollment, regional classification, and impact of available funding – were predictors for three of the five stress categories.

School size by enrollment. Enrollment data were collected as a measure of school size. School size has been found to be a predictor of task-based stress (Creal, 1998), however in the present study larger school size emerged as a predictor of resource-management stress. School size was not a predictor of any other type of superintendent stress. Superintendents or aspiring superintendents who are concerned with stresses associated with resource management may wish to take this into consideration as they consider demographics of potential places of employment.

Regional classification. Regional classification also only impacted resource-management stress. Superintendents serving rural schools, as opposed to suburban or urban, experienced higher frequencies of resource-management stress. Again, in terms of potential employment, those concerned with levels of stress related to resource management may wish to give this further consideration.

Impact of available funding. The third environment variable to predict superintendent stress, impact of available funding, did so in the areas of expectation-based stress, resource-

management stress, and self-efficacy stress. The impact of available funding has been cited as the highest, or nearly highest, ranking concern for school superintendents (Farkas et al., 2003; Glass & Franceschini, 2007; Kowalski et al, 2011; Trevino et al., 2008). Rueter (2009) reported increased levels of frustration from superintendents regarding the impact of limited resources on programming and student opportunities. In terms of all three stresses found to be significant – expectation-based stress, resource-management stress, and self-efficacy stress – the findings in this study support these previous findings.

Given that nearly 87% of participating superintendents reported the impact of available funding in their present district to be a problem, and that 42% indicated it was a critical problem, other mitigating factors to reduce stress should be considered. For the categories of expectation-based stress and self-efficacy stress, other factors that could be controlled by superintendents to reduce potential stress include decisions regarding how they structure their time in terms of non-job-related activities and extended work weeks or using a more extroverted/gregarious leadership style.

For resource-management stress, few other factors emerged as having an impact on lower frequency of stress. These include higher levels of education, smaller district size, district classification as rural, and less likelihood to use problem-focused social supports. Given the discussion of each in previous sections, and in light of the high likelihood of serving a district with financial concerns during present economic times, further investigation is needed.

Implication for Policy and Practice

The presence of and impact of stress associated with the superintendency has been studied and documented for decades (e.g., Baker, 2010; Farkas et al., 2001; Glass & Franceschini, 2007; Kowalski, 2011). Increasing stressors associated with the position have been

discussed as a link to the increasing turnover of superintendents (Hawk, 2008). Understanding the alignment between personal and environmental factors and stress management is important to the work of practicing and aspiring superintendents. This also extends to those who provide support to these individuals, including preparatory programs and the communities and school boards of the districts in which these superintendents serve or will serve.

The results of this study show the predictive power that the personal and environmental variables identified have on frequency of stress for superintendents. As an example, personal decisions superintendents make to spend too little time in non-job-related activities and too much time working beyond a traditional 40 hour work week lead to *workaholism* and increase the frequency of experiencing stress known as board-relations stress, task-based stress, expectation-based stress, and self-efficacy stress. The findings of this study provide several implications for policy and practice.

Implications for Aspiring and Practicing Superintendents

Superintendents must give more consideration to the phenomenon titled *workaholism* by McKay (2004). Choices that a superintendent makes regarding the use of their time have been shown to be predictors of superintendent stress. In a survey of 800 school principals and superintendents, McKay (2002) found that almost 43% considered themselves on the way to becoming, already being, or in denial of being a workaholic. Responding superintendents also reported that on average they lost between one and two weeks of paid vacation each year. Over half of the respondents in a study by Easton and Mirachnick (1991) reported they did not use all of their vacation time, averaging about 70% usage of annual vacation time. McKay also found that school administrators spent an average of four evenings each week attending school-related activities, a finding that supported the report from Byrd et al. (2006) that extracurricular

activities required many hours of attention each week. In the present survey, the average work week encompassed a 60 hour work week, with nearly 60% indicating that they spent over 20 additional hours each week working. The choices made regarding the use of time reported by superintendents in the current study were shown to predict higher frequencies of stress.

While the complexities of the superintendency lead to common understanding that additional work hours will be necessary, long hours have been found to affect other aspects of a superintendent's life as well. Yvarra and Gomez (1995) reported that the most frequently identified stressor within their study was having little time left for marriage and family. Patterson (2000) echoed these findings as he described through anecdotal evidence the personal toll the superintendency can take on an individual and their family. But given the high time demands inherent to the superintendency, finding balance in the distribution of one's time may be a more effective approach than unrealistically expecting the job to be limited to 40 hours a week.

Second, superintendents must consciously choose appropriate social supports. Social supports can be defined as the presence of a social network with the potential to help in situations where needed (Rakesh, 2012). While not found to have a significant impact on all categories of stress in the present study, the negative impact of selecting a mismatched form of social support was discovered. According to Chan et al. (2001), all effective leaders seek counsel from others. For what purpose this counsel is sought is what should be given careful consideration. Given the high exposure associated with the superintendency, recognizing when the support being offered, even when unsolicited, is a mismatch is an important consideration.

Finally, aspiring and practicing superintendents are encouraged to choose carefully as they look for employment or consider a change of placement. The phrase "know thyself" applies. As an example, for women, understanding that the predictability of certain types of stress is

higher by nature of gender is a real consideration. For those who are younger or newer to the profession, the same applies. And the most prevalent demographic variable in reducing the frequency of stress, across the spectrum of superintendent stress categories, was the endeavor of obtaining higher levels of education. In terms of personal characteristics and personal choices, the evidence provided by this study provides a more nuanced picture of how personal and environmental factors can work together to control certain types of stress.

Implications for Superintendent Preparatory Programs

The newly identified stress constructs presented in this study are worthy of study by aspiring superintendents. It is one thing to develop a preparatory curriculum that includes preparing individuals to do the work of the superintendency and developing an understanding of leadership models, but a study of the stress associated with this work load and the choices each will make while in the field will add depth and dimension to this preparation. As aspiring superintendents are being prepared to work in the field, they should be guided through a review of the repercussions associated with the intentional choices they will make. Specific preparation should include a review of how choices related to the use of time, social supports, and leadership styles will impact the frequency of certain types of stress.

Implications for Superintendent Support Systems

"Coping, understanding, and reducing superintendent stress should be a high priority for school boards and professional associations" (Glass & Franceschini, 2007, p. 47). Communities and school boards are encouraged to support superintendents in their challenging and complex jobs (Harris et al., 2004). For these groups to understand the specific types of stress associated with the superintendency is a first step in strengthening the partnership that can exist with the leaders of the educational community. Understanding the environmental characteristics of their

respective school districts, and then applying them to the model presented here, will also provide insight into the pressure points underlying each district. Recognizing the importance of intentional choices made by the superintendent of their district, particularly as they determine the use of their personal time, should be of upmost priority for a school board and community.

Recommendations for Future Research

This study contributes to the existing literature on stress associated with the superintendency within the framework of P-E fit. The stress factors identified through the factor analysis are unique to this study. While examining variables that impact superintendent stress, future research might consider investigations through this new structure. Also of interest would be exploring whether, when using the same research design used in this study, these new stress constructs carry through for other administrative positions.

Replication of this study in other regions of the country would also be worthy of consideration. Future research in this manner would allow for regional comparisons regarding the impact of personal and environmental characteristics upon the levels of administrative stress within the framework of the newly identified stress constructs.

Additional research should be conducted with consideration for other leadership/management styles. Results of this study revealed that only two styles chosen for inclusion were significant predictors of superintendent stress, and that not all stress constructs were impacted by these two styles. Further investigation would help to determine if other style choices made by superintendents could predict stress. Additional demographic and environmental variables would also be of interest for further investigation of superintendent stress.

Conclusion

This study sought to provide information that would help address the significant problem of stress experienced by superintendents by seeking to identify person and environment variables that could predict high levels of stress. The P-E fit framework was used to guide the identification of variables, specifically those considered related to each person and those considered characteristics of a school district. In considering the structure for examining the dependent variable superintendent stress, factors discovered by Koch et al. (1982) were taken into consideration. These factors were categorized as role-base, task-based, boundary-spanning, and conflict-mediating stress. Using the same survey instrument, the Administrative Stress Index, the factor analysis conducted within this current study did not validate these constructs but instead led to the creation of five new factors of superintendent stress – board-relations stress, task-based stress, expectation-based stress, resource-management stress, and self-efficacy stress – that served as newly developed dependent variables. What is most encouraging about the results of this study is that, for practicing and aspiring superintendents, all five stress constructs – board-relations stress, task-based stress, expectation-based stress, resource-management stress, and self-efficacy stress – could be controlled given conscious decision making.

Final Thoughts

Understanding the superintendency is a complex undertaking. Delving into the stresses experienced by superintendents can provide a pathway to demystifying the profession. Organizing stress into categories – board-relations stress, task-based stress, expectation-based stress, resource-management stress, and self-efficacy stress – will lead to a more nuanced and meaningful understanding of this complex topic. Put in the hands of aspiring and practicing superintendents, preparatory programs, and the support systems behind superintendents, this new structure offers the hope of bringing order to the chaos.

Appendix A

Template of Invitation to Participate in Survey

Dear Midwest Superintendent,

My name is Danielle Trimble and I am a current Drake University doctoral candidate. This email is to serve as an invitation for you to participate in a doctoral research dissertation study.

I am asking Midwest superintendents to participate in an anonymous online survey, which should take approximately 15 minutes to complete. My research involves the study of the predictability of stress associated with the superintendency based upon personal characteristics and factors relative to the environment in which each superintendent works. Should you choose to participate in the study there will likely be no direct benefit to you, although the information from this study may serve to inform practicing superintendents, those who provide support for practicing and aspiring superintendents, and preparatory programs for aspiring superintendents. Your participation is completely voluntary and there is no penalty for not participating. There are no anticipated risks for participating in this survey. You may choose to skip any questions in the survey that you would prefer not to answer. You may also choose to stop taking the survey at any time for any reason.

Data from this study will be confidential and all information will be stored in a password-protected computer with no personal identifiers linking your answers. Results of the study will be analyzed, written, and published in aggregate form, with no personal identifiers being used in any way. The results of the survey will be included in the dissertation document, which will be publicly available upon completion through the Drake University Cowles Library and may later be submitted for journal publication or conference presentations.

You are encouraged to ask questions at any time during this study. For further information about the study, contact me at: danielle.trimble@drake.edu or 712-369-1599, or you may contact my dissertation advisor, Dr. Robyn Cooper at: robyn.cooper@drake.edu or 515-271-4535. If you have any questions about the rights of research participants, please contact the IRB Administrator (515-271-3472) or IRB@Drake.edu.

Clicking on the link below indicates your voluntary agreement to participate in the study. A copy of the informed consent will be available to the participant upon request or by printing this email.

The survey link is: xxxxxxxxxxxxxxxxxxx

Thank you very much.

Respectfully,

Danielle Trimble

P.S. If you would like to receive results of this study in aggregate form, please email me directly.

Appendix B

Template of Follow-Up Reminder Email with Survey Instructions and Link

Dear Midwest Superintendent,

Recently you received an email from me inviting you to participate in a confidential online survey that is part of my dissertation research at Drake University. The email contained information regarding informed consent and a link to the survey that has been included again below.

Because completion of the survey is strictly anonymous, this reminder email is being sent again to all potential participants. If you have already completed the survey, please disregard this email. For those who requested results in aggregate form, thank you for your interest. I will maintain a file of your contact information to honor these requests. If you have not yet done so, please consider participation. Your participation is greatly appreciated, and it should take you approximately 15 minutes to complete the survey. Should you choose to participate in the study there will likely be no direct benefit to you, although the information from this study may serve to inform practicing superintendents, those who provide support for practicing and aspiring superintendents, and preparatory programs for aspiring superintendents. Your participation is completely voluntary and there is no penalty for not participating. There are no anticipated risks for participating in this survey. You may choose to skip any questions in the survey that you would prefer not to answer. You may also choose to stop taking the survey at any time for any reason.

Data from this study will be confidential and all information will be stored in a password-protected computer with no personal identifiers linking your answers. Results of the study will be analyzed, written and published in aggregate form, with no individual names being used in any way. The results of the survey will be included in the dissertation document, which will be

publicly available upon completion through the Drake University Cowles Library and may later be submitted for journal publication or conference presentations.

You are encouraged to ask questions at any time during this study. For further information about the study, contact me at: danielle.trimble@drake.edu or 712-369-1599, or you may contact my dissertation advisor, Dr. Robyn Cooper at: robyn.cooper@drake.edu or 515-271-4535. If you have any questions about the rights of research participants, please contact the IRB Administrator (515-271-3472) or IRB@Drake.edu.

Clicking on the link below indicates your voluntary agreement to participate in the study. A copy of the informed consent will be available to the participant upon request or by printing this email.

The survey link is: xxxxxxxxxxxxxxxxxx

Thank you very much.

Respectfully,

Danielle Trimble

P.S. If you would like to receive results of this study in aggregate form, please email me directly.

Appendix C

Survey of Superintendents

Part 1 Biographical Background

Directions: Please fill in the blanks or select the appropriate category.

1. How many years have you been a superintendent?	_____ years
2. How many years have you been a superintendent in your current district?	_____ years
3. Age	_____ age
4. Gender	_____ Male _____ Female
5. Which category best describes your current role as a superintendent?	_____ Supt. – one district _____ Supt. – more than one district _____ Supt. – elementary principal _____ Supt. – secondary principal
6. Which category best describes your highest level of education?	_____ Masters _____ Ed.S. _____ Ed.D. or Ph.D., in progress _____ Ed.D. or Ph.D. _____ other (please list degree)
7. In which state is your district located?	_____ Illinois _____ Indiana _____ Iowa _____ Kansas _____ Michigan _____ Minnesota _____ Missouri _____ Nebraska _____ North Dakota _____ Ohio _____ South Dakota _____ Wisconsin
8. What is your total district enrollment this year (actual enrollment)?	_____ total students

9. Which category best describes your district?

_____ Urban: located in a city or metropolitan area
_____ Suburb: located in a residential area on the outskirts of a city or metropolitan area
_____ Rural: located outside of a city or suburb

10. What percentage of your school's population qualifies for free or reduced lunch?

_____ %

11. On average, how many hours a week do you spend in non-job related activities (e.g., hobbies, exercise, family functions, etc.)?

_____ hours/week

12. On average, how many hours a week do you spend in work related activities over and above a traditional 40 hour work week?

_____ hours/week

13. Use the following scale to best describe the impact of available funding.
When it comes to my district budget, availability of funding is:

1	2	3	4	5
Not much of a problem		A problem but financial growth can occur with current resources		A critical problem that results in minimal financial growth

Part 2 Administrative Stress Inventory

School administrators have identified the following 35 work related situations as sources of concern. It is possible that some of these situations bother you more than others. How much are you bothered by each of the situations listed below?

	Rarely or Never Bothers Me		Occasionally Bothers Me		Frequently Bothers Me
1. Being interrupted frequently by telephone calls	1	2	3	4	5
2. Supervising and coordinating the tasks of many people	1	2	3	4	5
3. Feeling staff members don't understand my goals and expectations	1	2	3	4	5
4. Feeling that I am not fully qualified for my job	1	2	3	4	5
5. Knowing I can't get information needed to carry out my job properly	1	2	3	4	5
6. Thinking that I will not be able to satisfy the conflicting demands of board members	1	2	3	4	5
7. Trying to resolve differences between/among board members	1	2	3	4	5
8. Feeling not enough is expected of me by board members	1	2	3	4	5
9. Having my work frequently interrupted by staff members who want to talk	1	2	3	4	5
10. Imposing excessively high expectations on myself	1	2	3	4	5

	Rarely or Never Bothers Me		Occasionally Bothers Me		Frequently Bothers Me
11. Feeling pressure for better job performance	1	2	3	4	5
12. Writing memos, letters, and other communications	1	2	3	4	5
13. Trying to resolve differences with board members	1	2	3	4	5
14. Speaking in front of groups	1	2	3	4	5
15. Attempting to meet social expectations (housing, clubs, friends, etc.)	1	2	3	4	5
16. Not knowing what board members think of me, or how they evaluate my performance	1	2	3	4	5
17. Having to make decisions that affect the lives of individual people that I know (colleagues, staff members, students, etc.)	1	2	3	4	5
18. Feeling I have to participate in school activities outside of the normal working hours at the expense of my personal time	1	2	3	4	5
19. Feeling that I have too much responsibility delegated to me by my board	1	2	3	4	5
20. Trying to resolve parent/school conflicts	1	2	3	4	5
21. Preparing and allocating budget resources	1	2	3	4	5
22. Feeling that I have too little authority to carry out responsibilities assigned to me	1	2	3	4	5

	Rarely or Never Bothers Me		Occasionally Bothers Me		Frequently Bothers Me
23. Handling student discipline problems	1	2	3	4	5
24. Being involved in the collective bargaining process	1	2	3	4	5
25. Evaluating staff members' performance	1	2	3	4	5
26. Feeling that I have too heavy a work load, one that I cannot possibly finish during the normal work day	1	2	3	4	5
27. Complying with state, federal, and organizational rules and policies	1	2	3	4	5
28. Feeling that the progress on my job is not what it should or could be	1	2	3	4	5
29. Administering the negotiated contract (grievances, interpretation, etc.)	1	2	3	4	5
30. Being unclear on just what the scope and responsibilities of my job are	1	2	3	4	5
31. Feeling that meetings take up too much time	1	2	3	4	5
32. Trying to complete reports and other paper work on time	1	2	3	4	5
33. Trying to resolve differences between/among staff members	1	2	3	4	5
34. Trying to influence board actions and decisions that affect me	1	2	3	4	5

	Rarely or Never Bothers Me		Occasionally Bothers Me		Frequently Bothers Me
35. Trying to gain public approval and/or financial support for school programs	1	2	3	4	5

Part 3 Social Supports Questionnaire

This section will ask you about how you respond when confronted with difficult or stressful events. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress. Then respond to each of the following items by selected from the responses listed just below. Please try to respond to each item separately in your mind from each other. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU – not what you think "most people" would say or do. Indicate what YOU usually do when YOU experience a stressful event.

1 = I usually don't do this at all

2 = I usually do this a little bit

3 = I usually do this a medium amount

4 = I usually do this a lot

1. I try to get advice from someone about what to do.
2. I discuss my feelings with someone.
3. I talk to someone to find out more about the situation.
4. I try to get emotional support from friends or relatives.
5. I talk to someone who could do something concrete about the problem.
6. I get sympathy and understanding from someone.
7. I ask people who have had similar experiences what they did.
8. I talk to someone about how I feel.

Part 4 Leadership / Management Inventory – Traits and Behaviors of the Ideal Superintendent

Please respond to the following 25 pairs of traits and behaviors of school superintendents to indicate which of the paired items best represents you. Which trait or behavior do you believe exemplifies you in your work as a superintendent? These traits or behaviors are not always opposites. They may be both desirable. If forced to choose, do you think you are:

More:	*check here*		*check here*	***Or More:***
Observant, discerning				Accepting, pacifying
Contemporary, current				Mainstream, restrained
Child/youth orientated				Teacher Orientated
Collaborative, collegial				Self-reliant, independent
Dependable, loyal				Plucky, dauntless
Constructively critical				Nonjudgmental
Open, outgoing				Controlled, self-contained
Assertive, determined				Gentle, easy going
Extroverted, gregarious				Quiet, unobtrusive
Organized, systematic				Informal, relaxed
Ethical, scrupulous				Expedient, practical
Innovative, change oriented				Patient, steady
Perceptive, insightful				Knowledgeable, informed
Tolerant, lenient				Uncompromising, exacting
Traditional, conventional				Outspoken, unconventional
Visionary, altruistic				Flexible, pragmatic
Enthusiastic, passionate				Calm, poised
Resourceful, ingenious				Political, resilient
Personable, congenial				Humane, compassionate
Risk-taking, bold				Moderate, temperate
Productive, efficient				Conscientious, industrious
Relationship orientated				Task/goal oriented
Commonsensical				Research based
Solid, realistic				Imaginative, idealistic
Inspiring, encouraging				Competent, skilled

This survey of school superintendents' traits and behaviors was originally created by the late Dr. Harbison "Bud" Pool, Professor Emeritus of Georgia Southern University in the 1990's. While the original survey could not be retrieved, Dr. Tak Cheung Chan, Dr. Pool's colleague, took the initiative to recreate this survey by maintaining the same format and language. This survey can be employed in soliciting self or anyone's perception of the school superintendent. The quest for demographic information of the respondent can be added as part of the survey as the researcher sees necessary. (Recreated on January 23, 2013) For permission to use the survey, please contact Dr. Tak Cheung Chan, Professor of Educational Leadership, Kennesaw State University, e-mail: tchan@kennesaw.edu

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